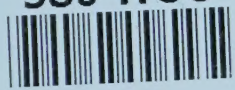


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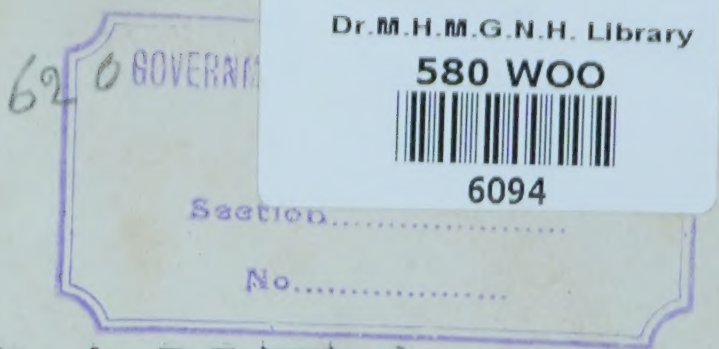
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NATAL PLANTS.

VOL. 3.—PART 1.

— BY —

J. MEDLEY WOOD, A.L.S.,

CURATOR OF NATAL BOTANIC GARDENS, DURBAN.

— AND OF —

NATAL GOVERNMENT HERBARIUM

Title Page, Preface and Index, will be Published with the concluding
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1900.



W.J.H.

Royena villosa, Linn.

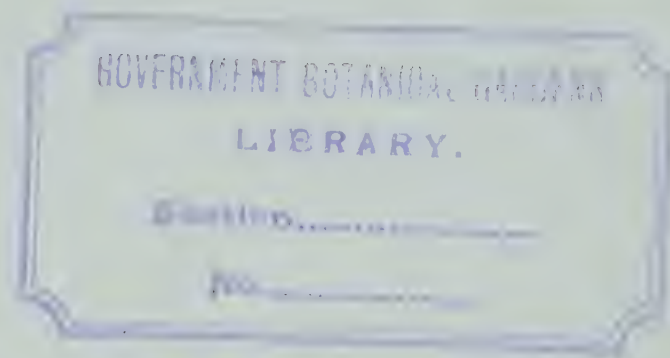


PLATE 201.

ROYENA VILLOSA, Linn. (Syst. ed. xii. 302.)

Natural Order, EBENACEÆ.

A rambling shrub divaricately branching. Bark reddish brown, densely rusty pubescent, or subvillose, older ones glabrous. Leaves alternate, petiolate, exstipulate, obovate-elliptical, very obtuse at apex, often with a minute mucro, obtuse or subcordate at base, quite entire, dark green and finely pubescent above, lighter and more pubescent beneath, especially on veins and veinlets, midvein reddish at base; edges more or less recurved; $1\frac{1}{2}$ to $2\frac{1}{2}$ inches long, $\frac{1}{3}$ to 2 inches wide. Petioles densely villous, reddish, $\frac{1}{4}$ to 1 inch long. Flowers solitary, or 2-3 together in axils of leaves, yellow, pedunculate, peduncles usually more or less curved, densely pubescent or villous, 4 to 6 lines long, pedicels 2 to 4 lines long, articulated below the flower. Bracts 2, leaf like, lanceolate, soon deciduous, densely pubescent, 3-4 lines long, 1 line wide. Calyx gamosepalous, campanulate, 5-cleft nearly to base, lobes acuminate from a broad base, erect, pubescent, with recurved margins, $1\frac{1}{2}$ to 2 lines long, accrescent in fruit, tube very short. Corolla gamopetalous, 5-lobed, lobes ovate, acute, spreading, twisted to the left, outer exposed portion pubescent; tube very short, inflated, pubescent, except at base, the whole corolla 4 to $4\frac{1}{2}$ lines long, tube $2\frac{1}{4}$ lines diameter. Stamens 10, at base of corolla tube, two opposite each lobe, filaments much shorter than the anthers. Anthers erect, acute, 2-celled, introrse, villous with long hairs. Style 1, deeply 5-lobed, pubescent. Stigmas truncate, ovary 8-10 celled, cells 1-ovuled. Fruit a berry, densely pilose or hirsute with silvery white hairs, bluntly 5-angled and enveloped by the enlarged calyx lobes which reach to 1 inch or more long, by 5-6 lines wide.

Habitat: NATAL: Edges of woods rambling amongst the adjacent shrubs, from close to the sea to 5,000 feet above it. Durban, June, Wood No. 6104.

Drawn and described from specimens gathered near Durban, August, 1899.

The genus *Royena* according to the *Genera Plantarum* includes 13 species natives of tropical and extra-tropical Africa, and nine of these have been found in Natal. The native name of the plant is "Cnandana," and they use the roots as one of the ingredients in their emetics, it has no other use as far as known to us. The flowers are yellow.

Fig. 1, Twig with young fruit, *reduced*; 2, Section through flower; 3, Calyx, ovary, and style; 4, Corolla opened; 5, Stamen; 6, Section through ovary. Except Fig. 1 *all enlarged*.

PLATE 202.

SCILLA LANCEÆFOLIA, Baker (in Saund. Ref. Bot. t. 182).

Natural Order, LILIACEÆ.

Bulb ovoid, tunicated, 2 to 3 inches diameter. Leaves 6 to 8, radical, forming a spreading rosette, ovate-oblong, oblong, or oblong-lanceolate, acute or subcucullate at apex, margin quite entire, and subcartilagenous, dark green, usually, but not always with darker blotches on upper surface, lighter and concolorous beneath, reaching in age to 5-6 inches long, and $1\frac{1}{2}$ to $2\frac{1}{2}$ inches broad in the middle. Peduncles 2 to 8 to a bulb, usually curved, issuing from between the leaves, strongly ancipital, outer surface rounded, inner flat, green, more or less tinged, spotted or lined with pink, especially in upper portion, sometimes the whole peduncle a deep and dull pink; 2 to 6 inches long to base of raceme, 2 to 3 lines wide at base. Racemes dense, $1\frac{1}{2}$ to 6 inches long, $1\frac{1}{4}$ to $1\frac{1}{2}$ inches diameter. Pedicels 4 to 8 lines long, erect in bud, cernuous in flower. Bracts minute, broad-based, lacerate. Perianth in bud oblong, a little constricted above the base; segments 6, in two rows, 3 lines long, 1 line wide, minutely cucullate at apex with a broad, greenish-brown central band and pink margins which are lighter in colour on the outer surface of the open flower, strongly reflexed. Stamens 6, on base of, and a little shorter than the perianth segments. Filaments linear, flattened, acuminate at apex, bright purple, greenish at base. Anthers 2-celled, oblong, versatile, introrse. Style 1, 3-lobed, purple, stigma obtuse. Ovary stipitate, deeply 3-lobed, lobes rounded at apex, and each lobe with 2 fleshy, laterally elongated protuberances just above the base. Capsule loculicidally 3-celled, seeds 2 in each cell.

Habitat: NATAL.

Drawn and described from specimens gathered near Durban, September, 1899.

This genus contains 80 to 90 species of which 57 or 58 are natives of South Africa and of these nine at least are known to be found in Natal. The specimens, from which the drawing was made, appear to come midway between *S. lanceæfolia* and *S. ovatifolia*, the latter species having been formerly known as *S. lanceæfolia*, var *ovatifolia*, but as there are no authentic specimens of *S. ovatifolia* in the Government Herbarium, I prefer to consider the species here described as *S. lanceæfolia*. The dark markings on the leaves are very variable, sometimes very plain, and on other specimens scarcely discernable, and I am inclined to think that the same variability occurs in other species of the genus.

Fig. 1, flower; 2, section through flower; 3, ovary and style; 4, cross section through ovary; 5, petal with stamen; *all enlarged*.



W.J.H.

Scilla lanceaefolia, Baker.



W.J.H.

Carissa acuminata, A.DC.

PLATE 203.

CARISSA ACUMINATA A. DC. (Prod. viii. 335).

Natural Order, APOCYNACEÆ.

A much branched thorny shrub with milky juice. Twigs green, very finely pubescent, terete, spines chiefly in opposite pairs at forking of twigs, occasionally terminal or opposite the leaves, stout, simple or more usually once or twice forked, $\frac{1}{2}$ to $1\frac{1}{2}$ inch long, the forks up to $\frac{3}{4}$ inch long, with 2 sharp spreading spines, which are 2 to 4 lines long and dark coloured at apex. Leaves opposite, petiolate, exstipulate, ovate-oblong to ovate, mucronate at apex, more or less obtuse at base, margin undulate, quite entire and a little recurved, coriaceous, glabrous, very dark green above, much lighter in colour beneath, veins pinnate; $1\frac{1}{2}$ to 3 inches long, 1 to $1\frac{3}{4}$ inch wide. Petioles curved, channelled above, puberulous, 2 to 3 lines long. Inflorescence in axillary cymes or the cymes terminal on short twigs; peduncles 2 to 8 flowered, often trichotomous, 1 line long, pedicels 1 line long. Flowers white, sweetly scented. Calyx deeply 5 parted, lobes erect, acuminate, finely hispid, pink, the whole calyx 1 line long. Corolla salver shaped, 5 lobed, tube terete, widening a little to throat, glabrous externally, internally sparsely pilose, densely so at throat; 3 lines long, lobes acuminate, 2 lines long. Stamens 5, subsessile on corolla tube half way down, included. Anthers linear-lanceolate, almost cuspidate, 2-celled, introrse. Style half as long as corolla tube, thickened below apex, then tapering, and 2-fid, pilose with minute white hairs. Ovary superior, 2-celled, cells 1-ovuled, one cell often abortive. Fruit a berry, ovate or obovate, 1-2 seeded, 6 to 7 lines long, 1 to 4 lines wide, scarlet when ripe.

Habitat: NATAL: In low woods by the sea side near Durban. August, Wood 7636.

Drawn and described from Wood's specimen.

A low rambling shrub attaining about 10 feet in height, the whole plant has a milky juice, the fruit is eaten by natives and children, and is sometimes used for preserving, but it is too small to be of much practical use, especially when that of *C. grandiflora* is so plentiful. It is a pretty shrub and not unworthy of cultivation. The native name is um-Vusamkunzi.

Fig. 1, flower; 2, section of same; 3, calyx and pistil, corolla and portion of calyx removed; 4, stamen; 5, section of ovary; *all enlarged*.

PLATE 204.

URGINEA LILACINA, Baker (Fl. Cap., Vol. vi. p. 469).

Natural Order, LILIACEÆ.

A bulbous plant found in damp or marshy ground. Bulb ovoid, $\frac{3}{4}$ to $1\frac{1}{2}$ inch diameter, tunics white. Leaves appearing after the flowers, cylindrical, tapering to an acute point, usually a little shorter than the peduncles, dark green, glabrous, and shining. Peduncles cylindrical, tapering very gradually from base to apex, 3 to 4 feet long, dark green, glabrous and shining. Raceme 4 to 8 inches long, 1 inch diameter, laxly many flowered, pedicels ascending, $\frac{1}{2}$ to $\frac{3}{4}$ inch long. Bracts deciduous, lowest ones spurred, erect, oblong, acute, margins strongly infolded, about 2 lines long, spur linear-acute, very strongly reflexed, reaching to $1\frac{1}{2}$ inch long; upper ones small, membranous, oblong, margins strongly infolded. Flowers fragrant, lilac, or pinkish when dried. Perianth campanulate $\frac{1}{4}$ inch long, cucullate at apex, segments 6, free nearly to base, oblanceolate, inner lobes narrowest, all with a dark central band on the upper half, which is most conspicuous on the outer surface, the inner surface white or pinky white. Stamens shorter than the perianth, erect, filaments flattened, white. Anthers oblong, small, dark coloured. Ovary ovoid, green, 3-celled. Capsule globose-triquetrous, loculicidally 3-valved.

Habitat: NATAL: In boggy ground, Inanda, 1,500 feet Alt, *Wood* 198; 642; *Colonel Bowker*, Northdene, *Wood* 3138. Eisdumbini, 1,800 feet, May, *Wood* , Clairmont, 50 feet alt, September, *Wood* 7644.

Drawn and described from the Clairmont specimens.

This plant is not unworthy of cultivation, but it requires plenty of moisture, and is always found in very moist or boggy ground. The native name is u-Jobo, and they use the bulbs as a vermifuge. In the *Flora Capensis* where this plant is described it is stated that the bracts are not spurred, but this is a mistake, they are very early deciduous and probably the specimens sent to Kew had lost their lower bracts, still in the *Key* to the genus it is included in the section having the "basal spur of lower bracts large, subulate;" these bracts are well shown in the figure.

Fig. 1, flower; 2, section of same; 3, petal with attached stamen; 4, stamen; 5, section of ovary; 6, lower bract, front and side view; 7, upper bract; upper and side view; *all enlarged*.



W.J.H.

Urginea lilacina, Baker.



W.J.H.

Eugenia albanensis, Sond.

PLATE 205.

EUGENIA ALBANENSIS Sond. (Fl. Cap. ii. 522).

Natural Order, MYRTACEÆ.

A low undershrub 6 to 12 inches in height. Stems 1 or several from a woody rootstock, very sparingly branched, terete, minutely and appressedly pubescent in the upper portion glabrous below, purplish, especially on the upper portion. Leaves opposite and decussate, sometimes ternate, and occasionally alternate; on very short petioles, ovate, oblong, elliptic-oblong, or subrotund, quite entire, margin recurved, obtuse or acute at apex, coriaceous, glabrous and shining above, lighter and duller beneath, $\frac{1}{2}$ to $1\frac{1}{2}$ inches long, 3 to 16 lines wide, midvein apparent, veinlets obscure, the young ones only conspicuously dotted. Flowers white, axillary, solitary or 2-3 on a common peduncle; peduncles as long as or a little shorter than the leaves, subcompressed; pedicels very short. Calyx gamosepalous, 4 cleft, 2-bracteate at base, bracts linear, shorter than tube, tube semi-globose, segments broadly depressed-ovate, entire, spreading, margins pink, the whole calyx about $1\frac{1}{2}$ to 2 lines long, spreading to 4 lines wide. Petals 4, inserted on the margin of the calyx tube, alternate with its lobes, broadly ovate, about 3 lines long. Stamens numerous, inserted with the petals, Style in young flowers very short, afterwards lengthening as shown in flower on left of drawing. Ovary 1 celled, 1 seeded. Fruit an ovate berry crowned by remains of the calyx, 6 lines long, 5-7 lines wide.

Habitat: NATAL: Inanda, 1,800 feet alt, August, Wood 1020; Clairmont, 50 feet alt, September, Wood, 7655.

Drawn from Wood's No. 7655, which is a variety with narrower leaves than is usual, but is still very common.

The genus *Eugenia* is a very large one including more than 700 species, chiefly inhabiting the tropics of America and Asia, also a few in New Caledonia, very few in Africa and Australia. In South Africa we have 5 species, all of which are found in Natal, the best known of which is *E. cordata*, Laws, the "Waterboom" or "um-Done," which is a large tree and yields a useful wood; this species appears in the Flora Capensis as *Syzigium cordatum*, but the genus *Syzigium* is now merged in *Eugenia*. The species above described is the smallest of the genus found in Natal, and so far as we are aware is of no economic value. It is known to the natives as u-Nanja, and the fruit is eaten by children. Many species of the genus bear eatable fruits, such as the "Brazil Cherry, Rose Apple," &c., and *E. pimenta* yields the "Allspice" of commerce.

Fig. 1, flower; 2, section through young opened flower, stamens removed; 3, calyx, petals and stamens removed; 4, section through ovary; 5, stamen; all enlarged.

PLATE 206.

KNIPHOFIA MULTIFLORA, Wood & Evans (Journ. Bot. Vol. xxxv. p. 353).

Natural Order, LILIACEÆ.

Leaves lorate, somewhat rigid, erect from base then spreading, veins numerous, margin finely and irregularly serrate; 3 to 4 or more feet long, $\frac{1}{2}$ to 1 inch wide. Peduncles equalling or exceeding the leaves, stout. Racemes densely many flowered, 12 to 15 inches long, subspicate, pedicels very short. Bracts linear, longer than pedicels. Flowers erect, very numerous, and crowded 300 to 400 in the raceme, very light yellow, or white at maturity. Perianth subcylindrical, constricted above the ovary, $\frac{1}{2}$ to $\frac{3}{4}$ inch long, 2 lines wide, segments very short, about as wide as broad. Stamens 6, long exserted. Style much exserted. Ovary 3-celled, cells many ovuled.

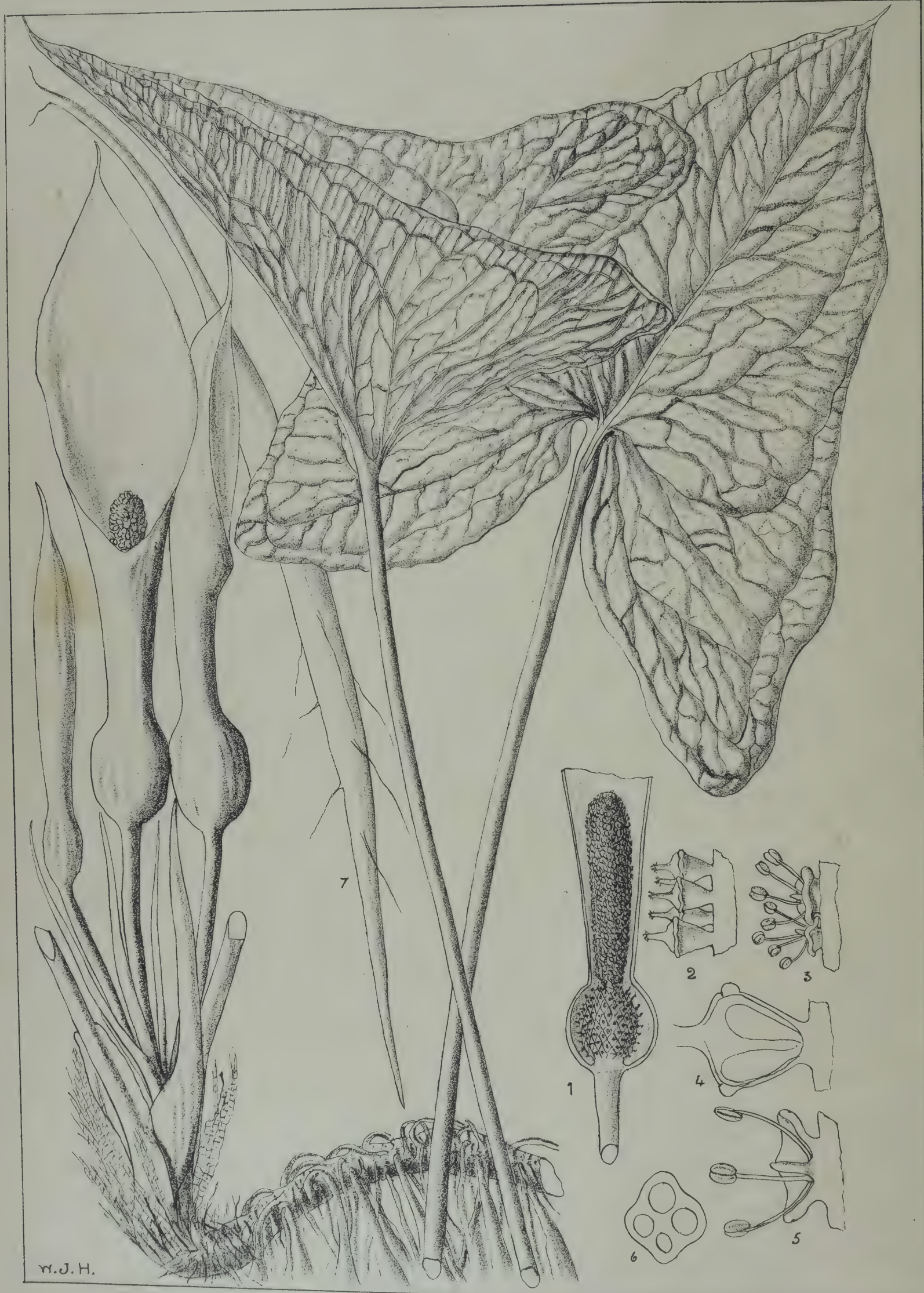
Habitat: NATAL: Summit of Drakensberg between Van Reenen and De Beer's Pass. Wood 5972. March, 1896.

This is the tallest of the Natal Kniphofias known to us; some plants of it were sent to Mr. Max Leichtlin of Baden-Baden who reports that the peduncle was 7 feet high, and the flowers not yet open. It is also remarkable as being the only Natal Kniphofia having the flowers erect, not declined on the peduncle. It does not appear to be known to the natives.

Fig. 1, flower with bract; 2, flower opened out; 3, stamen; 4, section through ovary; *all enlarged*.



Kniphofia multiflora, Wood & Evans.



Stylochiton natalense, Schott.

PLATE 207.

STYLOCHITON NATALENSE (Schott., Aroideæ, 10, t. 14).

Natural Order, AROIDEÆ.

Herbaceous with an apparently jointed rhizome bearing 5 to 25 or more long stalked cylindrical tubers at different parts of its length, the tubers 2 to 6 inches long, 3 to 4 lines diameter in centre, acute at base, tapering at apex to a stalk 1 to 6 inches long. Young leaves enclosed in a membranous oblong acuminate bract-like leaf, which is 2-keeled at the back, spotted and veined with dull purple, and which finally breaks up into fibres. Leaves 2 to 6, glabrous, dark green; petiole 3 to 9 inches long, rounded on the back, channelled or flattened on the face for its whole length, and having a membranous wing on each side extending 1 to 2 inches from base; suffused or mottled with purple from base, the markings becoming fainter upwards, the apex green without markings; blade 3 to 6 inches long, $2\frac{1}{2}$ to $6\frac{1}{2}$ inches broad, varying from sagittate to hastate, the basal lobes oblong, obtuse, and usually rounded, more or less divergent, apex acute with a subulate or filiform appendage 1 to $2\frac{1}{2}$ lines long, margins entire, more or less undulate, veins prominent beneath. Flowers appearing with leaves. Peduncle 2 to $3\frac{1}{2}$ inches long, 1 to $2\frac{1}{2}$ lines diameter, terete or subterete, glabrous, thickly blotched with dark dull purple. Spathe inflated at base, and constricted 3 to 4 lines above base, dark green outside when young, in age dull greenish-yellow; tube 1 to $1\frac{3}{4}$ inch long, limb erect, acute or acuminate and appendiculate like the leaves, $1\frac{1}{2}$ to 3 inches long, 8 to 12 lines broad, cream coloured, glabrous and shining within. Spadix sessile, $1\frac{1}{4}$ to $1\frac{1}{2}$ inch long, base of the male portion more or less interrupted, but scarcely separated from the female portion by a distinct naked space, female portion 4 to 5 lines long, of 4 to 5 crowded spirals of flowers, angular from mutual pressure. Perianth, female, $\frac{3}{4}$ to 1 line deep, cup shaped, contracted at the mouth, truncate and thickened at the margin, cream coloured. Ovary oblong-ovoid, 2, rarely 3 to 4 celled, with axile placentation, green. Style $\frac{3}{4}$ line long, whitish green. Perianth, male, about $\frac{1}{4}$ line deep, laterally compressed, cream coloured. Stamens 4, filaments filiform, papillose; anthers 2-celled, basifixed, elliptic-oblong, minutely papillose, creamy yellow. Fruits crowded on the lower part of the persistent spadix, ovate, compressed, tipped with the remains of the style, usually 2-seeded, testa thin, black, embryo axile.

Habitat: NATAL: From coast to at least 2,000 feet above sea level. Attercliffe, Sanderson 309; Wood, November, 271, Inanda; without precise locality Gerrard and Gueinzius. Near Durban, October, Wood 7560.

Drawn and described from Wood's 7560.

This genus includes 3 species only, the other two being natives of tropical Africa. Our plant is found in open ground, chiefly in the coast districts. The native name is Umfana-ka-Hlanjani, and they use the roots as a remedy for ear ache.

Fig. 1, section through flower, *natural size*; 2, female flower; 3, male flower; 4, section of female flower; 5, same of male flower; 6, section of ovary; 7, a tuber, *natural size*. Except figs. 1 and 7, *all enlarged*.

PLATE 208.

ANTHERICUM ELONGATUM, Willd (Sp. Plant. ii, 136) var. *holostachyum* (Baker, Fl. Cap. vi. 389.)

Natural Order, LILIACEÆ.

An erect herbaceous plant. Rootstock vertical, cylindrical, $\frac{1}{2}$ to $1\frac{1}{2}$ inch long, crown not bristly, root fibres many, spreading. Leaves linear, erect, concave half to two-thirds upward from base, convex below, upper portion terete or subterete, surfaces glabrous, ciliate with minute bristles in the channelled portion, which become much smaller and more distant upwards; dark green, veins about 8, obscure except at very base, where the margins are hyaline; 1 to $1\frac{1}{2}$ foot long, 2 to 4 lines wide at base, tapering very gradually to a fine point. Peduncles equalling or longer than the leaves, subterete, glabrous. Racemes 6 to 9 inches long, laxly many flowered. Bracts subulate from a broad base, $1\frac{1}{2}$ to 3 lines long, white with dark central band. Pedicels solitary, strongly curved, lower ones 4 to 5 lines long, articulated at apex. Perianth 6, parted 4 to 5 lines long, segments oblanceolate, recurved, alternate ones narrower; with a conspicuous brown band, which covers and conceals the 3 central nerves; cucullate at apex. Stamens 6, hypogynous, filaments white, minutely muricate. Anthers oblong, dorsifixed, versatile, dehiscent introrsely. Style equalling stamens, stigma minute. Capsule turbinate, 2 to $2\frac{1}{2}$ lines long and wide, 3-celled, 3-valved. Seeds triquetrous, black at maturity.

Habitat: NATAL: *Gerrard* 552; Berea, *Wood* (Durban Botanic Garden distribution) 72; Durban Flat, October, *Wood* 7659.

Drawn and described from *Wood's* 7659.

A rather pretty plant when in flower, and the only difference between the variety and the type appears to be that in the type the raceme is branched, in our variety it is simple; we have not met with the type in Natal. The natives do not seem to have any distinctive name for it.

Fig. 1, corolla opened; 2, ovary and style; 3, stamen, front and side view; 4, section through ovary; *all enlarged*.



W. J. H.

Anthericum elongatum, Willd. var. *holostachyum*, Baker.



Trichilia alata, N.E. Brown.

PLATE 209.

TRICHILIA ALATA, N. E. Brown (Kew. Bull. 1896, p. 160).

Natural Order, MELIACEÆ.

A small bushy tree 15–25 feet high. Bark dark coloured, rugose. Leaves alternate, petiolate, 3–7 foliolate, $1\frac{3}{4}$ –5 inches long, $\frac{1}{2}$ –3 inches wide. Leaflets opposite, sessile, elliptic-oblong, cuneate-obovate, oblong-lanceolate, oblong or lanceolate, obtuse or retuse, base cuneate, margins a little recurved, coriaceous, dark green, midrib plainly visible on both surfaces; 1–2 inches long, rhachis broadly winged, petiole below the leaflets less conspicuously so, $\frac{1}{2}$ – $1\frac{1}{4}$ inch long. Flowers white, in small axillary, terminal or subterminal corymbs, which are 6–10 lines diameter, each containing 10–30 flowers. Peduncles 4–14 lines long; pedicels $\frac{1}{2}$ –1 line long. Calyx gamosepalous, bluntly 4-toothed, glabrous. Corolla of 4 elliptic or elliptical-ovate obtuse petals, which are glabrous on the outer surface, and minutely white pubescent on the veins of inner surface. Disk 4-lobed. Stamens 8, the filaments united in a tube which is 8-toothed at apex, the alternate teeth longer, an anther seated on each tooth, the tube glabrous on outer surface, villous with white hairs within, $\frac{3}{4}$ –1 line long, adnate to disk at base, the free portion of the filament very short, glabrous. Anthers oblong, obtuse, glabrous, 2-celled, introrse. Ovary ovate, 2-celled, cells 2-ovuled. Fruit compressed, globose, 2-seeded, seeds plano-convex.

Habitat: NATAL: Umhloti, 1,800 feet alt, August, *Wood* 1022; Groenberg, 1,800 feet alt, September, *Wood* 1043; near Pinetown, 1,100 feet alt, September, *Wood* 3043; 5439.

Drawn and described from specimens sent from Pinetown by Mr. H. W. Currie, November, 1899.

Apparently a rare tree in Natal, since we have not met with it except in the localities quoted above, but it has been collected in Transvaal near Barberton by Mr. Galpin. We know of no use to which it has been put and the natives have no specific name for it. It is a handsome tree when well grown, but does not attain a large size.

Fig. 1, a flower; 2, same, 2 lobes of corolla removed; 3, staminal tube; 4, stamen front and side view; *all enlarged*.

PLATE 210.

GREWIA OCCIDENTALIS, Linn. (sp. Pl. 964).

Natural Order, TILIACEÆ.

A small tree reaching 10–15 feet in height with stem sometimes 6–8 inches in diameter. Bark grey, glabrous, the young twigs only puberulous. Leaves alternate, petiolate, stipulate, ovate-acuminate, tapering at base, margin closely crenato-serrate, dark green, shining and marked with small protuberances above, paler dull and smooth beneath, veins pinnate, the two outer ones only joining at the base of the leaf; $1\frac{1}{2}$ –3 inches long, $\frac{3}{4}$ – $1\frac{1}{4}$ inch wide; petiole 3–4 lines long. Stipules deciduous. Peduncles axillary and terminal, several flowered $\frac{1}{4}$ – $\frac{3}{4}$ inch long, pedicels 3–5 lines long. Buds oblong, obtuse. Sepals 5, linear-lanceolate, dull green and pubescent externally, pale lavender and glabrous within, leathery, $\frac{1}{2}$ – $\frac{3}{4}$ inch long, having 1 central and 3 lateral veins on each side. Petals 5, linear-lanceolate, shorter than the sepals, lavender, each with a large nectariferous subrotund scale at base within, which is villous on its upper edge, the 5 scales attaining an upright position, and completely enclosing the lower portion of the torus, which is furnished with 5 hispid glands near its apex. Stamens numerous, inserted at, and a little below the apex of the columnar torus, filaments filiform, pink, anthers ovate, yellow. Ovary globose, villous, 4-celled, cells 1-ovuled. Style longer than stamens. Stigma flattened. Fruit a drupe sparingly hispid, 4-lobed, 1–4 celled, cells 1 seeded.

Habitat: NATAL: Coast and midlands in thickets and near edges of bush. Near Verulam, 500 feet alt, October, *Wood* 1130; near Durban, 50 feet alt, January, *Wood*, var *obtusiflorus*, Higher Tugela, Gerrard and McKen, 1127.

A shrub or small tree known to the natives as i-Klolo; like others of the genus the bark contains much mucilage, but so far as known to us it has no practical value. In the *Flora Capensis*, Vol. 1, p. 225, where this plant is described, the flower buds are said to be “roundish oval” and in the young state they are so, but the more mature ones are oblong as stated above; the sepals also are said to be “nerveless,” but closer examination will show that they have a midvein, with 3 lateral ones on each side of it, but this cannot be well seen except under the microscope after the sepal has been rendered more transparent by soaking in spirit or in some other way.

Fig. 1, flower; 2, section through flower; 3, style, stigma and ovary; 4, stamen; 5, petal and scale; 6, fruit with perpendicular section through one of the cells. Figs. 1, 2, 6, *natural size*; figs. 3, 4, 5, *enlarged*.



W.J.H.

Grewia occidentalis, Linn.



Cycnium racemosum, Benth.

PLATE 211.

CYCNIUM RACEMOSUM, Benth. (in Hook. Comp. Bot. Mag. 1, (1835), 368).

Natural Order, SCROPHULARINEÆ.

A suffruticose plant reaching 1-3 feet in height and sometimes copiously branching. Stem more or less ribbed and channelled, hispid-pubescent. Leaves opposite, petiolate, lowest broadly ob-lanceolate, subentire, $2-2\frac{1}{2}$ inches long, $\frac{1}{2}-\frac{3}{4}$ wide, upper ones varying from ob-lanceolate, oblong, or linear-oblong, to linear; margin entire in lower third of leaf, remainder unequally incised, or deeply toothed, acute at apex, cuneate at base, both surfaces hispid with hairs springing from a broad flattened base; petiole very short. Flowers in a long loose terminal many flowered raceme. Pedicels 3 lines long, each subtended by a linear-lanceolate, acuminate floral leaf, $\frac{1}{2}$ inch long, which is irregularly and sparsely incisodentate. Bracts 2, linear, adhering, to opposite sides of the calyx tube at $\frac{1}{4}$ its length from base, and reaching to half its length. Calyx gamosepalous, tubular, tube 10 ribbed, $\frac{1}{2}$ inch long, hispid on the ribs; limb 5-lobed, lobes subulate $1-1\frac{1}{2}$ line long. Corolla gamopetalous, tube $\frac{3}{4}$ inch long, cylindrical at base, ribbed above, a little longer than calyx tube, curved, limb sub-bilabiate, spreading to $2-2\frac{1}{4}$ inches, upper lobe deeply 2-fid, lowest lobes largest, lateral similar, all oblong-obovate, pink, veiny. Stamens 4, didynamous, inserted near base of corolla, included. Anthers 1-celled, dorsally affixed, filaments pilose with long jointed hairs. Style short. Stigma clavate. Capsule included in base of the calyx tube, and about half its length, ovate, fleshy, subcompressed, 2 celled, many seeded.

Habitat: NATAL: Hill sides in midland and upper districts. Inanda, 1,800 feet alt, *Wood* 13; Lidgetton, 4,000 feet alt, *Wood* No. 7731.

Drawn and described from *Wood's* No. 7731.

A very handsome plant which has hitherto defied all attempts at cultivation, many of its congeners are thought to be parasitical, chiefly it is supposed on the roots of grasses; however that may be, the species here described has not yet been cultivated and stands as a puzzle for horticulturists. The natives have no name for it nor is it applied to any useful purpose.

Fig. 1, calyx; 2, section of corolla; 3, portion of corolla tube opened to show insertion of stamens; 5, ovary style and stigma; 6, cross section of fruit; *all enlarged*.

PLATE 212.

DESMODIUM HIRTUM, Guill. & Per. Fl. Seneg. Tent. 209,.

Natural Order, LEGUMINOSÆ.

A subherbaceous diffuse plant. Stems many from a half woody, sometimes creeping nodose root, patently hirsute with longish white or rusty hairs, distantly branched. Leaves alternate, pinnately 3-foliate, sometimes with a few simple ones near base of the stem, petiole $\frac{1}{2}$ – $\frac{3}{4}$ inch long, rounded beneath, flattened and very narrowly winged above, swollen at base, hirsute; lateral leaflets ovate to oblong, $\frac{3}{4}$ –1 inch long, $\frac{1}{2}$ – $\frac{3}{4}$ inch wide; petiolules 1–2 lines long; terminal one obovate, 1–1 $\frac{1}{2}$ inch long, $\frac{7}{8}$ –1 $\frac{1}{2}$ inch wide, petiolule 3–5 lines long; all appressedly pilose on both surfaces, mucronulate, strongly veined beneath. Stipules subulate from a broad base, 4–5 lines long; stipellæ setaceous. Racemes axillary or terminal, the terminal ones often 1 foot or more long, distantly flowered; pedicels 1–3 together, filiform, short, lengthening in fruit to 6–7 lines long. Bracts one in each axil of raceme, enclosing the young flowers, rotund or subrotund with a long acuminate point, deeply concave, striate, soon deciduous, finely pilose. Calyx setose with jointed hairs, bilabiate, upper lip bifid for $\frac{1}{3}$ of its length, lower lip deeply 3-lobed, lobes acuminate, ciliate, with long setose jointed hairs in upper portion. Vexillum obcordate, reflexed, claw slightly recurved, 2–3 lines long and broad, pale purple with 2 orange red spots above base, and 2 minute ridges below; alæ oblong, a little shorter than vexillum, deep purple on upper edge; carina a little longer than alæ, and adhering to alæ for more than one half its length, dull white with lavender tip. Stamens diadelphous, anthers ovate. Ovary elongate, pilose, style curved, stigma capitate. Legume 3–5-jointed, strongly compressed, clothed with minute jointed glandular hairs, the joints 1-seeded, separating at maturity. Seeds minute, subreniform, glabrous.

Habitat: NATAL. Coast and midlands. Near Durban, 50 feet alt., *Wood*. without locality, *Gerrard & McKen* 416; Inanda, 1,800 feet alt., *Wood* 93; near Durban, February *Wood* 7732.

Drawn and described from *Wood*'s 7732.

The genus *Desmodium* is a large one including from 120 to 130 species, natives of tropical and sub-tropical countries. In South Africa we have about 6 species only, which are distinguished from other leguminous plants of Natal by their short calyces and legumes which break up spontaneously into several or many one seeded portions. The plant here described has not been put to any practical use, and the natives have no distinctive name for it, but it appears to be a plant, which, on account of the numerous nodules found on the roots, might be found to be useful to the farmer for increasing the fertility of the soil.

Fig. 1, a flower; 2, calyx opened; 3, bract; 4, vexillum; 5, carina and alæ, front view; 6, same, back view; 7, stamens; 8, ovary, style and stigma; 9, legume; 10, joint of legume opened; 11, portion of root with nodules; *all enlarged*.



Desmodium hirtum, Guill & Per.



Calophanes Burkei, T. And.

PLATE 213.

CALOPHANES BURKEI T. And. (in Journ. Linn. Soc. vii. (1864) 24).

Natural Order, ACANTHACEÆ.

A low growing plant from a thick woody root. Stems erect or decumbent, 6–12 inches long, branched from base, striate, strongly ribbed or quadrangular, retrorsely hispid with whitish hairs, older ones subglabrous. Leaves opposite, petiolate, exstipulate, ovate, entire, obtuse at apex, cuneate at base, veins immersed but plainly visible on both sides, very finely pubescent on both surfaces, 6–10 lines long, 4–7 lines broad; petiole flattened above, rounded beneath, $1\frac{1}{2}$ –3 lines long. Flowers axillary, 1–3 together, white. Calyx 5-parted nearly to base, lobes setaceous, similar, 5 lines long, glandularly pubescent. Corolla tube laterally compressed, widening to throat, 6–7 lines long, limb 5-lobed, bilabiate, upper lip 2 cleft, its teeth connate below, lower 3 cleft, lobes equal or nearly so, oblanceolate, 2–3 lines long. Stamens 2, exserted, filaments flattened below and decurrent on the upper portion of the tube of the corolla for nearly its whole length; anthers 2-celled, cells parallel, very shortly spurred, deep lilac. Ovary superior, elongate, surrounded at base by a swollen yellow disk, 2-celled, cells 2-seeded. Style equalling stamens, stigma filiform, compressed, recurved and brown below the apex. Capsule compressed, included in the unaltered calyx, 2-valved.

Habitat: NATAL: In open grassy ground from the coast to the Drakensberg. Near Durban, *Wood* 1157; Inanda, 1,800 feet alt, *Wood* 213.

Drawn and described from specimens gathered near Durban, February, 1900.

The genus *Calophanes* contains about 50 or more species, natives of tropical and subtropical countries. In South Africa we have about 6 species, three of which are found in Natal, and there are 6 others in Tropical Africa, none of the species have any useful properties so far as known to us. The species above described is common in most parts of the Colony, usually on hill sides amongst grass, or occasionally on stony hills, but never in the bush.

Fig. 1, a flower; 2, calyx opened; 3, corolla opened; 4, section of corolla showing insertion of stamens; 5, stamen; 6, pistil; 7, capsule; 8, valve of capsule with seeds in situ; *all enlarged*.

PLATE 214

CAPPARIS ZEYHERI, Turcz. (Animad. p. 54).

Natural Order, CAPPARIDÆ.

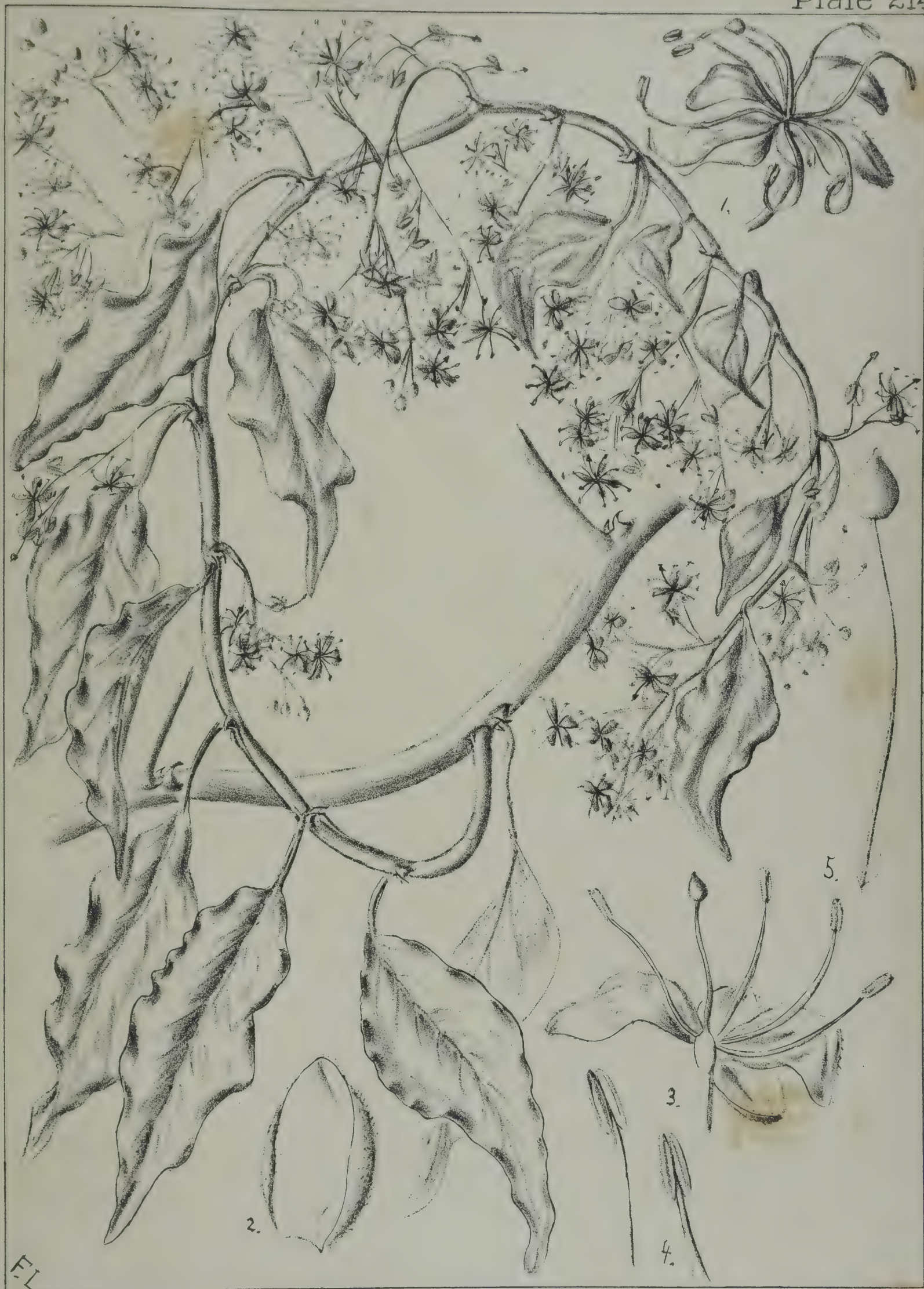
A climbing plant with white flowers. Stems and branches flexuous, terete, glabrous or minutely downy. Leaves alternate, petiolate, oblong-acuminate or broadly oblong-lanceolate, glabrous or minutely downy especially on the midvein beneath, glabrous and shining above, margin entire, undulate, tapering to both ends, veins prominent beneath, less so above; 2–3 lines long, $\frac{3}{4}$ – $1\frac{1}{2}$ line wide; petiole channelled above, 5–8 lines long. Stipules in pairs, spiny, recurved. Inflorescence axillary, racemose, racemes shorter than the leaves, but varying much in length and in number of flowers. Pedicels 2–4 lines long, very slender. Sepals 4, imbricate in æstivation, oblong or obovate, concave, finely pubescent externally, ciliate, green, $1\frac{1}{2}$ line long, 1 line broad. Petals 4, hypogynous, alternate with sepals, white, obovate, ciliate, 2– $2\frac{1}{4}$ lines long, 1 line broad. Stamens 8, inserted on a very short hemispherical torus, filaments filiform, glabrous, white, 2–4 lines long. Anthers 2-celled, attached a little above the base. Ovary long stalked, the stalk (stipes) 2–3 lines long, minutely pilose at base. Style 0; stigma obtuse.

Habitat: NATAL: *Williamson*; *Sanderson*; *Drège*, 8505; near Durban, March, 150 feet alt, *Wood* (Government Herbarium, 665) Clairmont, February, *Wood*; Berea, February, *Wood*.

Drawn and described from Wood's specimens.

The genus *Capparis* includes about 120 species inhabiting the warmer parts of Europe and Asia, of which 11 are enumerated as being natives of Africa, and 4 of these have been collected in Natal. There is also another species (*Wood* 4438) which was collected near Weenen, and is not yet described, the material being insufficient. From one species of the genus (*C. spinosa*) the "Capers" of commerce are obtained, and possibly other species are used in the same way. The buds are first placed in slightly salted vinegar, then strained and preserved in bottles with fresh vinegar. It is not unlikely that the buds of our *C. corymbifera* might be used in the same way.

Fig. 1, a flower; 2, calyx lobe; 3, longitudinal section through flower; 4, anther, front and back view; 5, ovary and stipes; *all enlarged*.



Carpinus Zeyheri, Turcz.

PLATE 215.

VANGUERIA LATIFOLIA, Sond. (in Fl. Cap. Vol. 3, p. 15).

Natural Order, RUBIACEÆ.

An erect undershrub with green flowers. Stems erect from a woody root, sparingly branched, terete or subcompressed at nodes, bark brown, rough with small prominences, finely hirsute, older subglabrous; 1–2 feet high. Leaves opposite, petiolate, stipulate, broadly ovate or oblong, obtuse at apex, rounded at base, entire, glabrous, reaching to $3\frac{1}{2}$ inches long, by $3\frac{1}{4}$ wide, dark green above, paler beneath, veins conspicuous on both surfaces; petiole 1–2 lines long. Stipules cuspidate from a broad rounded base, a little longer than the petiole. Peduncles axillary, 3–4 flowered, sometimes with two peduncles in the same axil, pedicels very short. Bracts linear, minute. Calyx gamosepalous, glabrous, tube globose, $1-1\frac{1}{2}$ line long, limb 5-parted, lobes linear, $2\frac{1}{2}-3\frac{1}{2}$ lines long; spreading. Corolla gamopetalous, tube barrel-shaped, 2 lines long, lobes 5, at length reflexed, ovate-acuminate, cucullate at apex, a little longer than tube, glabrous externally, internally with a circle of pilose white hairs in throat. Stamens 5, at throat of corolla alternate with its lobes, filaments very short, anthers 2-celled, oblong, acute. Style 1; stigma cylindrical, thick, minutely lobed at apex, deeply intruse at base. Ovary inferior, 5-celled, 1–2–3 of the cells frequently abortive. Fruit a drupe crowned by remains of the calyx lobes, globose, 1–2 inches diameter, 1–3 seeded by abortion. Seeds compressed, bony, 5–6 lines long, by 4–5 lines wide.

Habitat: NATAL: Coast and midlands. *Gueinzus* 115; *Williamson*; *Wood* 395; *Government Herbarium* 761.

Drawn and described from specimens gathered near Durban, February, 1900.

The genus *Vangueria* includes some 30 species, natives of tropical countries, in Natal we have 7 or 8 species, one of which, *V. lasiantha*, was figured in Vol. 1, plate 46. In tropical Africa there are about 12 species only one of which is also found in Natal. The fruit of the above described species is eaten by natives and children, and is known by the natives as ukaba-ka-umtwaan.

Fig. 1, a flower; 2, corolla opened out; 3, stamen; 4, calyx with two lobes removed, showing pistil; 5, seed, side and front view; *all enlarged*.

PLATE 216.

JUSTICIA PROTRACTA, T. And. (in Journ. Linn. Soc. vii. (1864) 41).

Natural Order, ACANTHACEÆ.

A small undershrub 6–18 inches high. Stems erect from a woody root, branching, strongly ribbed, hispid with scattered whitish hairs, green. Leaves petiolate, exstipulate, opposite, decussate, in false whorls, one large leaf on each side, with 1–3 smaller ones in the axils; ovate to oblong-ovate, obtuse at each end or emarginate at apex, margins entire, finely hispid-pubescent on both surfaces, reaching to $1\frac{1}{4}$ inch long by $\frac{1}{3}$ – $\frac{3}{4}$ inch wide. Flowers axillary, 1–3 together, shorter than leaves. Bracts lanceolate, erect, minute. Calyx 5-lobed, lobes lanceolate-acuminate, pubescent, erect, green, $1\frac{1}{2}$ –2 lines long. Corolla pubescent externally, glabrous within, bilabiate, tube laterally compressed, widening to throat, a little longer than calyx lobes, ribbed, pubescent; lower lobe broadly ovate, 3-fid at apex, the teeth rounded, strongly reflexed, white with lilac markings in centre towards the base; upper lobe erect, minutely 2-fid at apex, white, brown lined. Stamens 2, on tube of corolla near throat, filaments short, curved; anther cells superposed, the lower one spurred. Ovary 2-celled, cells 2-ovuled. Capsule laterally compressed at base, acute at apex, tapering to base, subtended by the persistent calyx, pilose, 2–4 seeded. Seeds muricate.

Habitat: NATAL: Coast to midlands in open ground. Inanda, December, Wood No. 718.

Drawn and described from specimens gathered near Durban, March, 1900.

This genus contains 100 or more species, widely spread in warm regions of the world. In South Africa we have about 16 species, of which 6 or 8 are found in Natal. None of the species have any economic value, but some of them are rather ornamental. For the present species the natives have no distinguishing name, nor do they put it to any use so far as known to us.

Fig. 1, a flower; 2, same, corolla removed; 3, corolla opened out, showing stamens; 4, capsule; 5, section of same; *all enlarged*.



Vangueria laurifolia, Sond.



Justicia protracta, T. And.



Gomphocarpus physocarpus, E. Mey.

PLATE 217.

GOMPHOCARPUS PHYSOCARPUS, E. Mey. (Comm. Pl. Afr. Aust. 202).

Natural Order, ASCLEPIADEÆ.

An undershrub reaching to 6 feet in height, and often much branched. Stems pale green, terete, older glabrous, young ones incano-pubescent. Leaves opposite, subdecussate, exstipulate, shortly petiolate, linear-lanceolate, tapering to both ends, margins quite entire, veins plainly visible on both surfaces, 2-6 inches long including petiole, $\frac{1}{2}$ - $\frac{3}{4}$ wide in the centre, petiole reaching to $\frac{3}{4}$ inch long, channelled above. Flowers in axillary and terminal simple or compound few flowered umbels, peduncles $\frac{1}{4}$ - $\frac{1}{2}$ inch long, pedicels equalling peduncles, both lengthening in fruit. Calyx 5-parted, segments acuminate, pubescent externally, $1\frac{1}{2}$ -2 lines long. Corolla 5-parted, rotate, lobes strongly reflexed, ovate-lanceolate, ciliate, 4-5 lines long, white. Corona of 5 truncate compressed lobes, which are hollowed on upper surface, with the inner angles produced into 2 short inflexed teeth; white with pink tinge. Anthers membrane tipped. Pollinia in pairs attached to the 5 stigmatic glands, clavate, pendulous, stigma pentagonal, depressed, white. Follicles in pairs or solitary by abortion, 2-3 inches in diameter, the pedicel of each strongly deflexed; subglobose, inflated, covered with stiff erect bristles, 2-3 $\frac{1}{2}$ lines long. Seeds numerous, attached to a prominent parietal placenta; each with a tuft of white hairs at apex.

Habitat: NATAL: From near the sea level to at least 2,000 feet alt. Inanda, 1,900 feet alt, March, *Wood* No. 33.

Drawn and described from specimens gathered near Durban, March, 1900.

The genus *Gomphocarpus* includes, according to the *Genera Plantarum*, some 80 species, of which about 46 are found in South Africa, to this number many species have been added during the last few years, chiefly by Mr. R. Schlechter who has been specially interested in this Order. The above described species is the tallest and most shrubby of any with which we are acquainted. The bark contains a silky fibre which may yet prove to have a commercial value, and the hairs found upon the seeds of this and other closely related species have been used for pillows, cushions, &c., and I understand are frequently gathered and offered for sale in the adjacent colonies. The plant is known to the natives as *Qomantanetu*.

Fig. 1, a flower, front view; 2, same, side view; 3, calyx; 4, pollinia; 5, seed with comose hairs; *all enlarged*.

PLATE 218.

PROTEA HIRTA, Klotsch (ex Krauss, in Flora xxviii. (1845) 76).

Natural Order, PROTEACEÆ.

A low shrub with one or several stems from a thick woody root, sparingly branching. Stems 1–3 feet high, terete or subterete, pilose with white hairs, light green. Leaves alternate, exstipulate, sessile, narrowly oblong, obtuse at apex, gradually tapering to base, margins quite entire, midvein distinct, lateral ones immersed, pilose on both surfaces, 2–5 inches long, $\frac{1}{2}$ –2 inches wide. Flowers in terminal heads surrounded by a many leaved involucre; dull white. Involucre of many imbricate scales in several rows, the lowest 2–3 lines long, deltoid, the others gradually larger upwards, and more spreading, the uppermost oblong-spathulate, 1–2 inches long, 5–7 lines wide in upper portion, patent or at length reflexed; all white and silky villous externally, glabrous within. Receptacle convex, honeycombed, and clothed with long white hairs between the cells, margins of cells deeply toothed. Perianth of 4 elongated lobes, 3 of which cohere, the other free; widened at base and apex, slender in central portion, densely pilose externally, glabrous within, the upper third coriaceous; $1\frac{1}{2}$ –2 inches long. Stamens 4, on corolla tube, included, filaments decurrent on the tube. Anthers linear-elongate, 2-celled, connective thickened at apex, and produced beyond the cells. Ovary superior, 1-celled, 1-ovuled, the ovule pendent from wall of the cell. Style filiform, stigma minute, obtuse. Hypogynous scales 4, minute. Nut densely covered with rusty hairs.

Habitat: NATAL: From coast to Drakensberg. Inanda, 1,800 feet alt, June, Wood 577.

Drawn and described from specimens gathered near Durban, March, 1900.

The genus *Protea* contains 60 or more species, the greater number of which are natives of South Africa, one or two only being found in Tropical Africa and Abyssinia. In Natal we have not more than 4 or 5 species, *P. hirta* being probably the best known, as it is found from near the sea to the uplands of the Colony. The flowers are said to secrete an abundance of nectar, and are much visited by bees, hence the popular name "Sugar Bush."

Fig. 1, a flower; 2, upper portion of 3-fid perianth lobes with anthers; 3, lower portion of same with hypogynous scales; 4, ovary showing position of ovule; *all enlarged*.



Protea hirta, Klotzsch.



Pseudarthria Hookeri, Wight & Arn.

PLATE 219.

PSEUDARTHRIA HOOKERI, Wight et Arn. (Prod. Fl. Ind. 209).

Natural Order, LEGUMINOSÆ.

An erect undershrub 3–4 feet high. Stems stout, deeply furrowed, densely pubescent with short greyish hairs. Leaves trifoliate, petioles 1–1½ inch long, furrowed and pubescent like the stems. Stipules lanceolate, pubescent externally, brown and glabrous within, 3–4 lines long. Leaflets, lateral ones ovate with recurved mucro, rounded at base, margins entire or wavy, veins, veinlets and venules prominent beneath, obscure above, densely velvety-pubescent beneath, finely hirsute above; petiolules 2–3 lines long, swollen, pubescent; stipellæ linear, shorter than the petiolules, lamina 3½ inches long, 1–2¼ inches wide; terminal similar but larger, its petiolule ½–1 inch long, stipellæ 1–2 lines below its apex, 1 line long; lamina 3–6 inches long. Flowers in terminal panicles reaching below the leaves, red. Peduncles ribbed and pubescent like the stems; pedicels up to 2 lines long, slender. Calyx unequally 5-cleft, the two upper lobes connate nearly to apex, lateral and lower one subulate, lowest longest, the lobes longer than the campanulate tube, hispid externally. Bracts lanceolate, ciliate, equalling the pedicels. Corolla papilionaceous, vexillum suborbicular, equalling alæ and carina, erect, alæ oblong, free, carina straight, obtuse. Stamens 10, diadelphous, the vexillary one free to base. Ovary pilose, several ovuled. Style short, curved, stigma globose. Legume strongly compressed, not jointed, 4–8 seeded, densely hirsute-pubescent, tipped with remains of the style. Seeds oblong, compressed, glabrous.

Habitat: NATAL: In open ground from near the sea to at least 3,000 feet alt. Near Pinetown, February, *Wood*; near Durban, March, 1900, *Wood* 7930.

Drawn and described from the Durban specimens.

A common plant in the coast and midland districts growing on grassy hills, or amongst low shrubs and flowering in the autumn. It was formerly known as *Anarthrosyne robusta*, E.M., and will be found under that name in the *Flora Capensis*, Vol. 2, p. 229, but the genus *Anarthrosyne* has since been merged in *Pseudarthria*, the plant here described is the only one of the genus which has been found in Natal, and it is said to be also a native of Mauritius. The genus includes 10 species, of which 6 are found in Tropical Africa, and 3 in Java and East Indies. Our plant is known to the natives as u-Pandosi, but is of no special value.

Fig. 1, calyx; 2, vexillum; 3, alæ; 4, carina; 5, stamen; 6, ovary, style and stigma; 7, legume opened; *all enlarged*.

PLATE 220.

RHYNCHOSIA ORTHODANUM, Bth. (ex Harv. and Sond. Fl. Cap. ii. 257).

Natural Order, LEGUMINOSÆ.

An erect branching shrublet, from 1–2½ feet high. Stems glabrous below, pubescent, silky-villous or glabrescent in upper portion; bark light coloured. Leaves trifoliolate, alternate, petiolate, stipulate, subcoriaceous; leaflets elliptic-oblong, oblong or oblanceolate, terminal largest, margins quite entire; acute or apiculate at apex, tapering to a short and swollen petiolule, finely and appressedly pubescent, or glabrescent, veins and veinlets very prominent beneath, visible above; lateral ones more or less oblique; 1–2 inches long, ½–1 inch wide. Stipules lanceolate, withering, dark brown, inner surface glabrous, outer pubescent; 1–2 lines long. Inflorescence racemose, flowers yellow. Peduncles axillary and terminal, 1–6 or 7 flowered. Bracts similar to the stipules. Calyx 5-cleft, pubescent, tube campanulate, lobes subulate, the two upper ones connate at base, lowest a little longer than the others; pedicels 1–3 lines long, the whole calyx 4–5 lines long. Corolla papilionaceous, petals subequal in length, a little longer than the lowest calyx lobe, vexillum suborbicular, emarginate, with two inflexed auricles at base, shortly clawed; alæ oblong, auricled at base; carina broader than alæ, curved, clawed. Stamens 10, diadelphous, 9–1, vexillary one free to base; anthers small, ovate. Ovary 2-ovuled, silky pilose, style curved, stigma capitate. Legume compressed, 2-seeded, oblong, tipped with remains of the style, densely hirsute, ½ inch long, ¼ inch wide.

Habitat: NATAL: In open ground all over the Colony. Northdene, 700 feet alt. March, Wood.

Drawn and described from specimens gathered near Durban, March, 1900.

A common plant in grassy places all over the colony, but most common in the coast districts, the pubescence is somewhat variable, and the young leaves are often, perhaps always silky silvery. This plant and *R. Woodii*, Schinz, are the only two species of the genus known to us in Natal having a quite erect habit, all the remainder being climbers or creepers. It has no known useful properties, and we cannot learn that the natives have any distinctive name for it. The genus includes about 80 species, all being natives of warm climates.

Fig. 1, a flower; 2, calyx opened out; 3, vexillum; 4, ala; 5, carina; 6, stamens; 7, ovary, style and stigma; 8, legume opened out; *all enlarged*.



Rhynchosia orthodanum, Benth.



Berkheya lahifolia, Wood & Evans.

PLATE 221.

BERKHEYA LATIFOLIA, Wood & Evans (Journ. of Botany, Vol. xxxv., p. 351).

Natural Order, COMPOSITÆ.

A low growing herbaceous plant with yellow flowers. Flowering stem 1-2 feet high, racemoso-paniculate at apex, striate, densely hispid with short whitish hairs. Lower leaves 12-14 inches long, 6-7 inches wide, ovate-oblong, narrowing to base, acute at apex, shortly petiolate, margins crenate with large rounded lobes; intermediate ones smaller, narrow-oblong, decurrent on both sides of the stem, subpinnatifid; upper ones becoming rapidly smaller, margins of all ciliate with stout spines from 2-3 lines long; upper surfaces with a few minute adpressed hairs, lower densely clothed with dull white cobwebby hairs. Heads few (3 in our specimens). Pedicels erect, $2\frac{1}{4}$ -4 inches long, striate and hispid like the stem. Involucral scales 100 or more in several series, concrete at base, spreading, linear-subulate, with prominent midrib, margins with many unequal spines, 1-2 lines long; glabrous above, lower surface with many minute stalked glands. Ray florets about 40, $\frac{3}{4}$ -1 inch long, 6-8 striate, deeply bifid at apex and each lobe again shortly bifid. Disk florets, very many, deeply 5-lobed, lobes linear, acute, erect. Receptacle deeply honeycombed, the cells lacerate at apex, teeth often long acuminate. Achenes glabrous. Pappus scales few, lacerate at apex.

Habitat: NATAL: On the side of a grassy hill, summit of Drakensberg Mountains, 5-6,000 feet alt. March, Wood No. 5960.

Drawn and described from Wood's specimens.

Only about half a dozen plants were seen, and but half of them in flower, and the drawing has been made from a dried and somewhat imperfect specimen. The natives do not appear to be able to distinguish it from several other species of *Berkheya*, and it has not to our knowledge been collected in any other locality.

The genus *Berkheya*, according to the Genera Plantarum, includes about 70 species, to which number several have been added since the publication of that work. All are natives of South Africa, the only exception being one which has found its way into Tropical Africa. The flower heads of the different species are usually large, and always yellow, and the leaves and stems frequently spine-bearing. None of the species have any economic value.

Fig. 1, portion of involucre; 2, portion of receptacle; 3, ray floret; 4, disk floret; 5, style and stigmas; 6, pappus scales; *all enlarged*.

PLATE 222.

STOBÆA ECHINACEA, Harv. (Fl. Cap. Vol. 3, p. 495.)

Natural Order, COMPOSITÆ.

An erect herbaceous plant with yellow flowers. Rootstock woody, root fibres often thickened, or almost tuberous. Stems 1-3 headed, clothed throughout with decurrent stem wings. Root leaves few, 5-9, linear-oblong to oblong-ovate, entire, acute, margins ciliate with slender bristles which are 1-2 lines long, and $\frac{1}{2}$ -1 line apart; upper surface densely clothed with similar bristles springing from a gland-like base; under surface destitute of bristles, subglabrous, but having a few scattered jointed hairs on the midrib. Stem leaves closely set to apex of stem, sessile, decurrent in long sinuous, spinous stem wings, linear-lanceolate, bristly like the root leaves, and like them tipped with a long bristle, lowest in our specimens $1\frac{1}{2}$ -2 inches long, becoming gradually smaller upwards, uppermost $\frac{1}{4}$ inch long, linear. Heads radiate. Involucral scales concrete at base in 2-3 rows, shorter than the ray florets, linear, the outer rows margined with 4-7 simple or binate spines on each side springing from a swollen base and tipped with a longer and similar spine, inner ones without, or with minute spines only. Receptacle honeycombed, cleft at apex into bristles of varying length. Ray florets unilabiate, neuter, 8-10 lines long; disk florets perfect, deeply 5-cleft, the lobes linear, thickened at apex. Stamens 5. Achenes silky. Pappus scales oblong, biseriate, irregularly toothed.

Habitat : NATAL : Dry plains Province of Zululand *Gerrard & McKen* No. 1045; near Charlestown 5-6,000 feet alt, January, *Wood* No. 5240; Stony hill, near Newcastle, 3-4,000 feet alt, January, *Wood* No. 6228; Stony hill, near Brakwaal, 5-6,000 feet alt, December, *Wood*.

Drawn and described from *Wood's* No. 6228.

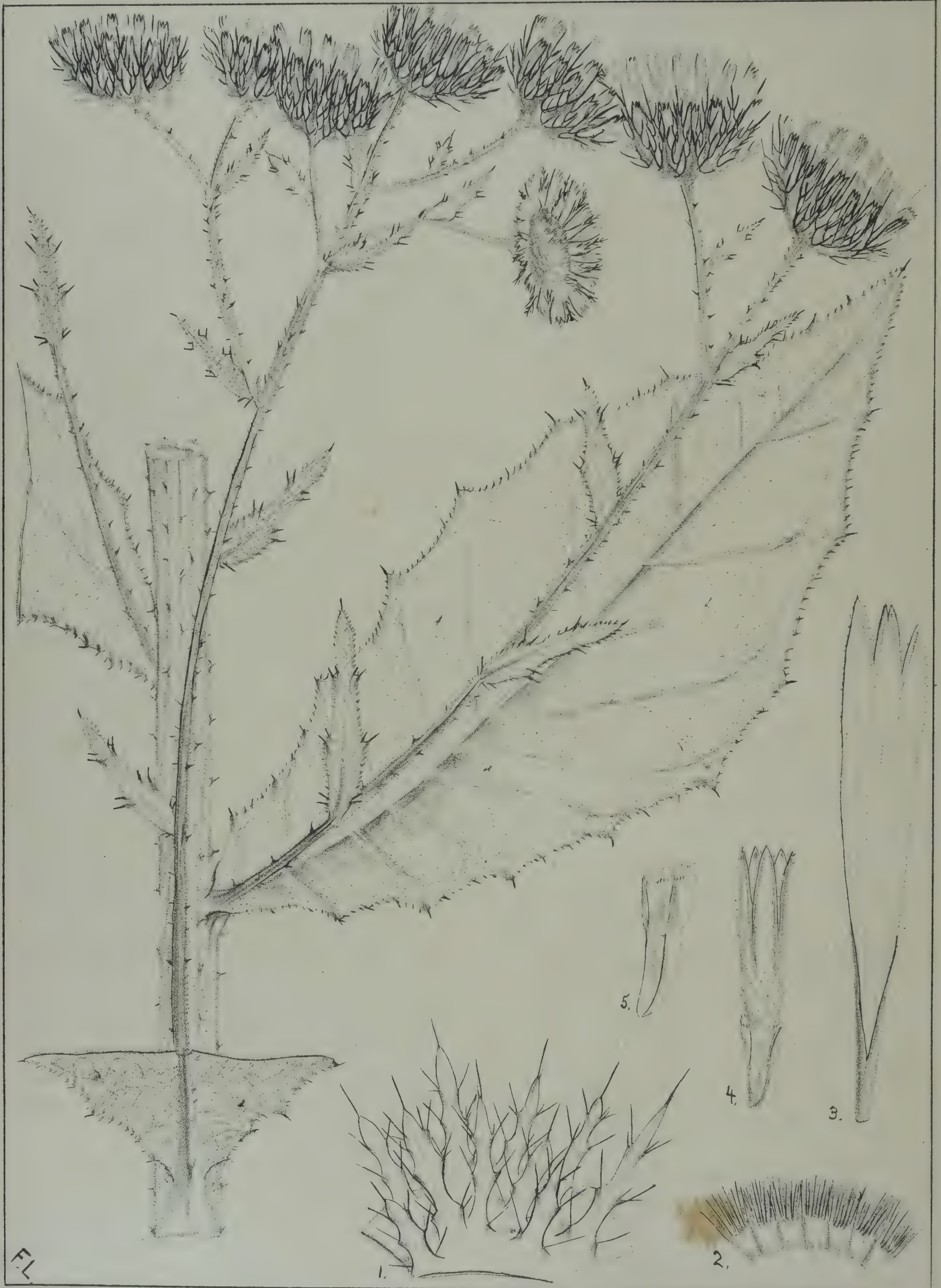
This plant is fairly common from Newcastle to the Drakensberg, usually in stony ground, and it comes very near to *S. Gerrardi*, Harv. The lower leaves, which only differ from the stem leaves in size are not alluded to in the *Flora Capensis*, but are present in the specimens in the Government Herbarium. The thickened roots are not noticed, and further notes on this feature would be interesting. I know of no use to which the plant is applied, and the natives do not appear to have a distinctive name for it.

The genus *Stobæa* has now been united with *Berkheya*, from which genus it only differs by the bluntish, not acuminate pappus scales, but so far as we are aware no monograph of the genus has yet been written, I therefore retain the name given in the *Flora Capensis*.

Fig. 1, portion of involucre; 2, portion of receptacle; 3, ray floret; 4, disk floret; 5, pappus scale; *all enlarged*.



Slobœa echinacea, Harv.



Berkheya montana, Wood & Evans.

PLATE 223.

BERKHEYA MONTANA, Wood & Evans (Jour. of Bot. Vol. xxxv, p. 351).

Natural Order, COMPOSITÆ.

An erect branching plant, 3-5 feet high, with yellow flowers. Stems and branches striate, pubescent or hispid with short hairs, and bearing small scattered spines. Radical leaves none, stem leaves petiolate, oblong, margin irregularly and unequally wavy, ciliate with a few short scattered unequal spines, minutely hispid above, cobwebby with dull white adpressed hairs beneath, 6-9 inches long, including the petiole, 3-4 inches wide, petiole of the central leaves subamplexicaul, but not or scarcely decurrent; $\frac{1}{4}$ - $\frac{1}{2}$ inch long gradually becoming shorter upwards, uppermost leaves sessile. Heads in lax axillary and terminal corymbs; $\frac{3}{4}$ -1 $\frac{1}{4}$ inch diameter. Involucral scales concrete at base, squarrose, lanceolate, outer ones 4-7 lines long including the 1 line long spine, margins with few shorter but similar spines; midrib conspicuous, lateral obscure above, on both sides densely clothed with minute glands. Receptacle deeply honeycombed, edges of the cells with long bristles. Achenes glabrous, striate, minutely pedicelled. Pappus cup-shaped, concrete in one row, lacerate at apex.

Habitat: NATAL: In a shady valley, summit of Drakensberg Mountains, near De Beer's Pass, 5-6,000 feet alt. March, Wood No. 6978; Van Reenen, 5-6,000 feet alt. Wood No. 5605.

Drawn from Wood's 6978.

A plant growing 3-4 feet in height, in light shade at margin of bush, and not more than 500 yards from where *B. latifolia* was found, both being at that time undescribed; it is quite probable, however, that the present plant may have a wider distribution than *B. latifolia*, as it has most likely hitherto been mistaken for some other closely allied species.

The lowest leaves which are not shown in the drawing are petioled, the petiole being sometimes 1 inch or more long, this is plainly seen in the Van Reenen specimens, which were not at hand when the drawing was made, and description written. In the specimens gathered near De Beer's Pass the lowest leaves are not present.

Fig. 1, portion of involucre; 2, portion of receptacle; 3, ray floret; 4, disk floret; 5, achene and pappus; *all enlarged*.

PLATE 224.

BERKHEYA DEBILIS, MacOwan (Journ. Linn. Soc. Vol. xxv., p. 391).

Natural Order, COMPOSITÆ.

An erect plant with yellow flowers. Stems erect, herbaceous, weak, pubescent. Radical leaves sub-rosulate, membranous, green above, finely albo-tomentose beneath; ovate-oblong, attenuate to base, deeply pinnatifid, lobes wide, oblong, acute, irregularly sinuate, spinoso-mucronate at the angles, interspaces wide, spinulose; 12-8 inches long; 4-5 inches wide. Stem leaves smaller, cordate-amplexicaul, not decurrent, sinuate-pinnatifid, lobes distant, ascending, acute, spiny, 6-8 inches long, $2\frac{1}{2}$ -3 inches wide. Inflorescence laxly corymbose. Heads radiate, 6 lines wide; ray florets about 12. Involucral scales triangular elongate, spinulose towards the base. Pappus scales acute, very short. Achenes glabrous.

Habitat: NATAL: In damp woods near Byrnetown, 3,000 feet alt, May, *Wood* No. 1902; Weenen County, 3-4,000 feet alt, April, *Wood* No. 4476; in moist shady ground, Upper Umkomaas, 2-3,000 feet alt, May, *Wood* No. 3158.

Drawn from Wood's specimens.

This species was also gathered by Tyson in East Griqualand, and was described by Professor MacOwan from Tyson's and Wood's specimens; the author says that it "must be near to *B. sonchifolia* (Stobœa, Harv. Fl. Cap. iii., p. 496) though differing by the glabrous achenes and acute pappus scales as well as by the deeply cut ascending leaf lobes." All the Natal specimens were gathered in moist ground, and usually I think in light shade.

Fig. 1, portion of involucre; 2, portion of receptacle; 3, ray floret; 4, disk floret; 5, style and stigmas; 6, achene and pappus; *all enlarged*.



Berkheya debilis, MacOwan.



Berkheya subulata, Harv.

PLATE 225.

BERKHEYA SUBULATA, Harv. (Fl. Cap. Vol. 3, p. 507).

Natural Order, COMPOSITÆ.

An erect undershrub 1-2 feet high, growing in clumps from a woody root, and bearing large and handsome flower heads. Stems herbaceous, closely ribbed, and leafy from base to apex, usually simple, densely pubescent, 1-headed. Leaves scattered, linear or broadly linear, not decurrent on the stem, apex tipped with a bristle 1-2 lines long, margins ciliate with similar bristles; minutely pubescent, and dark green above, beneath densely white tomentose on the lamina, midrib subglabrous and prominent; 2-3 inches long, 1-3 lines wide. Stipular bristles 1 or more on each side similar to those on the leaves. Heads terminal, radiate, disk 1-1 $\frac{1}{4}$ inch in diameter, rays 1-1 $\frac{1}{2}$ line long, flowers yellow. Involucral scales in several series, linear, minutely puberulous, ciliate with 8-12 weak slender bristles on each side, and tipped with a similar bristle; 10-12 lines long including the terminal bristle, the lateral bristles 2-5 lines long. Ray florets 5-6 veined, 4-toothed at apex, two outer teeth longest, disk florets tubular, 5-fid, the lobes dilated and furnished with a small yellow gland on outer surface below the apex. Pappus scales linear-oblong, deeply incised at apex, minutely so on margins; silvery with minute hairs on outer surface; twice as long as achenes. Achenes densely white pilose. Receptacle honeycombed, margins of cells bristly.

Habitat: NATAL: Upper districts from 1,000 feet alt. upwards. Inanda, 1,800 feet alt. November, *Wood* No. 1111; near Pinetown, and near Botha's Hill *Wood*.

Drawn and described from Wood's specimens.

This plant is not uncommon from near Pinetown upwards towards the Drakensberg, and is one that is well worth cultivation. In the *Flora Capensis* the leaves are described as glabrous, but in all our specimens they are as stated in the text. The gland at apex of the corolla lobes of the disk florets is somewhat remarkable and we have not noticed this peculiarity in any other species of the genus that we have examined.

Fig. 1, portion of involucre; 2, cell of receptacle; 3, ray floret; 4, disk floret; 5, lobe of corolla of disk floret; 6, achene with pappus scales; *all enlarged*.

NATAL PLANTS.

Vol. 3.—Part II.

—BY—

J. MEDLEY WOOD, A.L.S.,

CURATOR OF NATAL BOTANIC GARDENS, DURBAN.

—AND OF—

NATAL GOVERNMENT HERBARIUM.

Title Page, Preface and Index, will be Published with the concluding
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Berkheya maritima, Wood & Evans.

PLATE 226.

BERKHEYA MARITIMA, Wood & Evans (Journ. Bot. Vol. xxxvii. p. 253).
Natural Order, COMPOSITÆ.

An herbaceous branching plant reaching 3-4 feet in height. Stems and branches striate, sparsely clothed with cobwebby hairs; green. Leaves alternate, sessile, decurrent in short spinosely ciliate stem wings; lamina oblong, irregularly sinuate, lobed, lobes tipped with a 1-2 lines long spine, interspaces ciliate with smaller spines $\frac{1}{2}$ -1 line long; thinly cobwebby, and with jointed glandular hairs above, densely white tomentose beneath, veins and veinlets conspicuous beneath, less so above; 4-8 inches long, $1\frac{1}{2}$ -3 inches wide; upper ones smaller. Inflorescence corymbose, heads small, few, radiate, yellow, on long pedicels having at the nodes depauperated leaves, the uppermost of which is less than 1 inch long and lanceolate. Involucral scales squarrose, 4-5 seriate, concrete at base, each with a terminal spine $1\frac{1}{2}$ line long, and 1-4 large, and many smaller ones at each side; lanceolate, 4-6 lines long, including the spine; densely albo-tomentose beneath, cobwebby above. Ray florets 30-40, strap-shaped, elongate, 3-veined, 4-toothed at apex, $\frac{3}{4}$ inch long, neuter. Disk $\frac{1}{2}$ - $\frac{7}{8}$ inch diameter, florets tubular, 5-lobed, 4-5 lines long, lobes linear-lanceolate, equalling tube. Receptacle convex. Pappus of broad scales, lacerate at apex. Achenes turbinate, angular, glabrous and shining.

Habitat: NATAL: Near Durban 100 feet alt., *Wood* No. 7602.

This plant appears to come near to *Stobæa scolymoides*, D.C. of which we have not seen a specimen, and it has only been gathered so far as known to us in the vicinity of Durban; it has most likely been confused by collectors with some other closely related species.

Fig. 1, portion of involucre, natural size; 2, involucral scales, front view; 3, cell of receptacle; 4, ray floret; 5, disk floret; 6, style and stigmas; 7, achene with pappus scales; except Fig. 1, *all enlarged*.

PLATE 227.

ARGYROLOBIMUM UNIFLORUM, Harv. (Fl. Cap. Vol. ii., p. 72).
Natural Order, LEGUMINOSÆ.

A slender, erect, herbaceous plant with yellow flowers. Roots tuberous. Stems ribbed, glabrescent, or with a few scattered minute hairs in upper portion, pubescent near the base, 10–18 inches long. Leaves trifoliate, petiolate, stipulate, few and distant; common petiole of lowest leaves $\frac{1}{2}$ – $\frac{3}{4}$ inch long, densely pubescent; uppermost leaves subsessile. Stipules small, subulate, hairy, 1–2 lines long. Leaflets of lowest leaves ovate to lanceolate, entire, mucronate, 5–8 lines long by 3–4 lines wide, uppermost conduplicate, linear, 1–1 $\frac{1}{2}$ inch long, $\frac{1}{2}$ line wide; all densely pilose. Flowers opposite the uppermost leaves, solitary (rarely in pairs). Bracts setaceous, equalling pedicels; pedicels 1–2 $\frac{1}{2}$ lines long; bracteoles 2, in centre of pedicel and about half its length. Calyx bilabiate, upper lip deeply 2-lobed, lowest 3-fid; hirsute. Corolla papilionaceous, vexillum broadly ovate, reflexed, silky on outer surface, alæ oblong, curved, glabrous, carina curved, hairy on midvein. Stamens monadelphous, dissimilar, anthers five oblong, five ovate, all obtuse. Ovary shortly stipitate, several ovuled, hirsute; style strongly curved, stigma subcapitate. Legume linear, compressed, pubescent, ciliate; 1 $\frac{1}{4}$ –1 $\frac{1}{2}$ inch long, 1 $\frac{1}{2}$ line wide.

Habitat: NATAL: Inanda, 1,800 feet alt., *Wood* No. 180; Hillcrest, 2,000 feet alt., *Wood*, September, No. 7941.

The genus *Argyrolobium* includes more than 70 species, of which 43 are found in South Africa, and 8 others in Tropical Africa. The flowers are always yellow sometimes variously tinged with brown. The stamens are usually monadelphous, but occasionally or perhaps frequently in the older flowers of this species one filament becomes detached from the others nearly to the base, thus appearing to be almost diadelphous. The species here described is of no economic value.

Fig. 1, calyx; 2, vexillum; 3, ala; 4, carina; 5, staminal tube opened; 6, ovary, style, and stigma; *all enlarged*.



Argyrolobium uniflorum, Harv.



Argyrolobium Sandersoni, Harv.

PLATE 228.

ARGYROLOBIUM SANDERSONI, Harv. (Fl. Cap. Vol. ii., p. 594).
Natural Order, LEGUMINOSÆ.

A low undershrub, branching from base, 12–18 inches in height. Stems and branches erect, glabrous, green, bluntly angular or ribbed. Leaves trifoliate, petiolate, glabrous; common petiole reaching to nearly 1 inch long, channelled above. Stipules linear or subulate, 4–8 lines long. Leaflets obovate to oblanceolate, or oblong, entire, glabrous, mucronate; 3–4 inches long, $1\frac{3}{4}$ – $2\frac{1}{4}$ inches wide, smaller upwards. Inflorescence racemose, racemes terminal, elongate. Flowers yellow. Peduncles minutely hairy, bracts linear, 1 at base of each pedicel, which is swollen at apex; bracteoles 2, on pedicel at base of calyx. Calyx bilabiate, upper lip 2-fid or sub-entire; lower minutely 3-toothed; pubescent with brown silky hairs. Corolla papilionaceous, vexillum longer than carina, with a few minute hairs on outer surface, carina curved, glabrous, alæ a little longer than carina, oblong, glabrous. Stamens monadelphous, dissimilar, five bearing ovate anthers, alternating with 5 lanceolate ones, the filaments with lanceolate anthers winged, remainder linear. Ovary stipitate, many ovuled, clothed with brown silky hairs. Style curved, stigma obtuse. Legume linear, compressed, curved, margined, hirsute, 2–3 inches long, $1\frac{1}{2}$ –2 lines wide.

Habitat: NATAL: Field's Hill, Sanderson, No. 99; Near Botha's, 2-3,000 feet alt., October, Wood; Hillcrest, 2,000 feet alt., September; Wood No. 7940.

We have in Natal three species of this genus, which in general appearance are very similar to each other, viz, *A. Sandersoni* here described, which is found at about 1,500 to 2,000 feet above sea level, commencing in the vicinity of Krantz-kloof and reaching to some distance beyond Inchanga; *A. Sutherlandi*, which is not uncommon from Maritzburg at about 2,000 to the hills above it at 3,000 feet alt., and *A. speciosum* which reaches from 3,000 feet alt. in the neighbourhood of Estcourt to the foot of the Drakensberg; the two first named have been so far as known to us found in Natal only, while *A. speciosum* has been reported from Cape Colony and Transvaal. It is intended to figure these two species as soon as good specimens can be obtained.

Fig. 1, calyx; 2, vexillum; 3, ala; 4, carina; 5, staminal tube opened; 6, ovary, style and stigma; *all enlarged*.

PLATE 229.

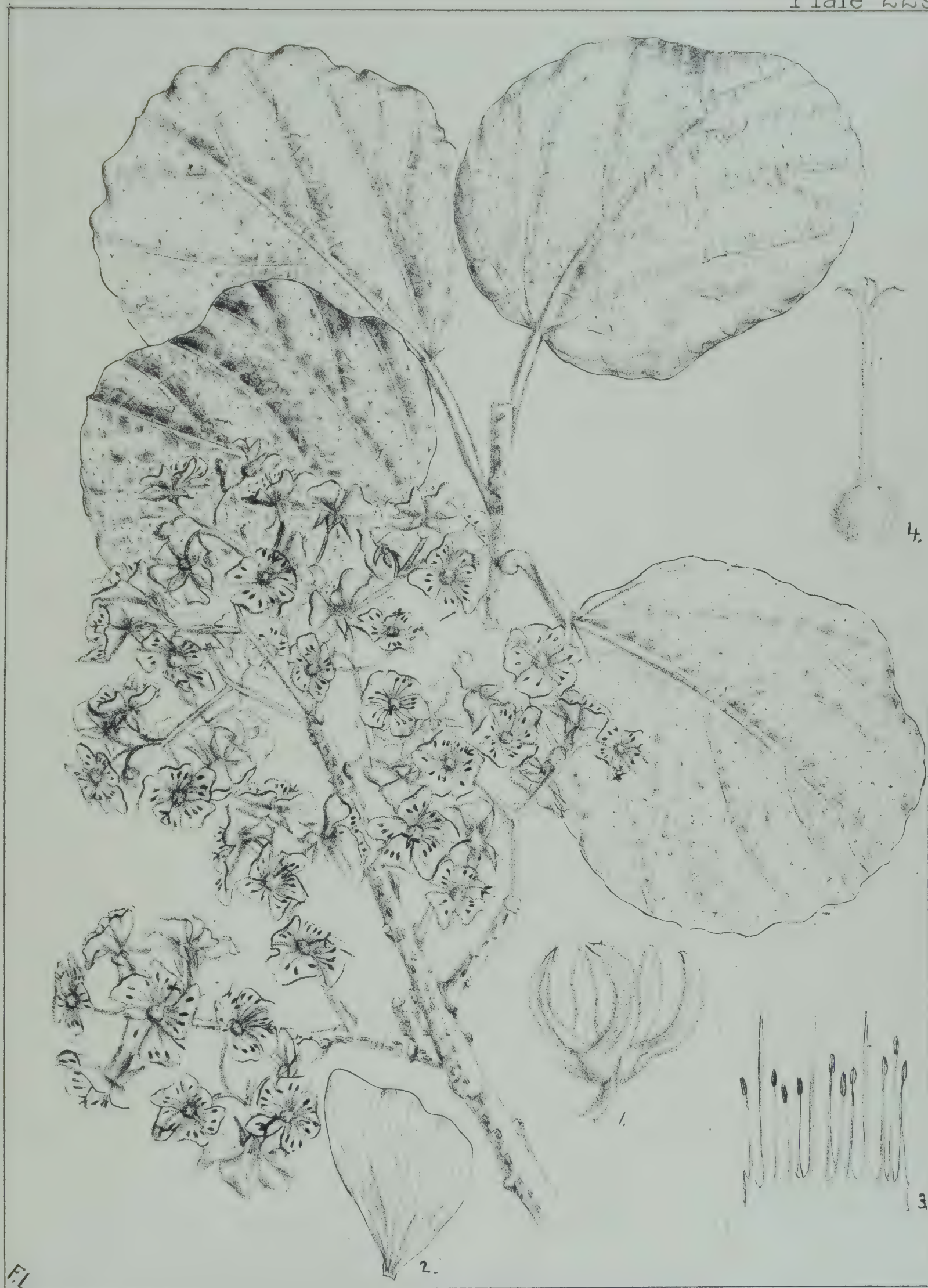
DOMBEYA ROTUNDIFOLIA, Planch (Harv. Fl. Cap. Vol. 1, p. 221).
Natural Order, STERCULIACEÆ.

A shrub or small tree bearing during the winter months a profusion of white flowers. Bark brown, rough, glabrous, young twigs puberulous. Leaves alternate, simple, stipulate, petiolate, suborbicular, margins obscurely repandocrenulate, more conspicuously so in the young leaves, subcordate at base, obtuse at apex, 5-7 veined, coriaceous, hispid with scattered stellate hairs above, more densely so beneath, veins, veinlets, and venules prominent on under surface, visible above; $\frac{1}{2}$ -3 inches long and wide; petiole terete, stellato-pubescent, $\frac{3}{4}$ -1 $\frac{1}{4}$ inches long. Stipules subulate, deciduous. Inflorescence much branched, each arm bearing an umbel 3-12 flowers, peduncles and pedicels densely stellato-pubescent. Bracts 2-3, or 2 at base of calyx, and 1 on pedicel half way down, deciduous, true involucrel not seen. Calyx 5-lobed, lobes lanceolate, at length reflexed, 2 $\frac{1}{2}$ lines long, united at base and forming a short tube, stellato-pubescent. Petals 5, hypogynous, obliquely ovate, 4-5 lines long, 4 lines wide, persistent. Stamens 15-20, perfect, $\frac{1}{2}$ - $\frac{2}{3}$ as long as petals, hypogynous, shortly connate at base in 5 parcels, one parcel opposite each petal. Anthers linear, basifixed, 2-celled. Staminodes 5, alternate with petals, linear, longer than the stamens. Ovary superior, globose, 2-3 celled, densely pilose. Style 1, equalling or exceeding the stamens, stigmas 2-3, revolute, thickened and obtuse. Capsule pilose, many seeded.

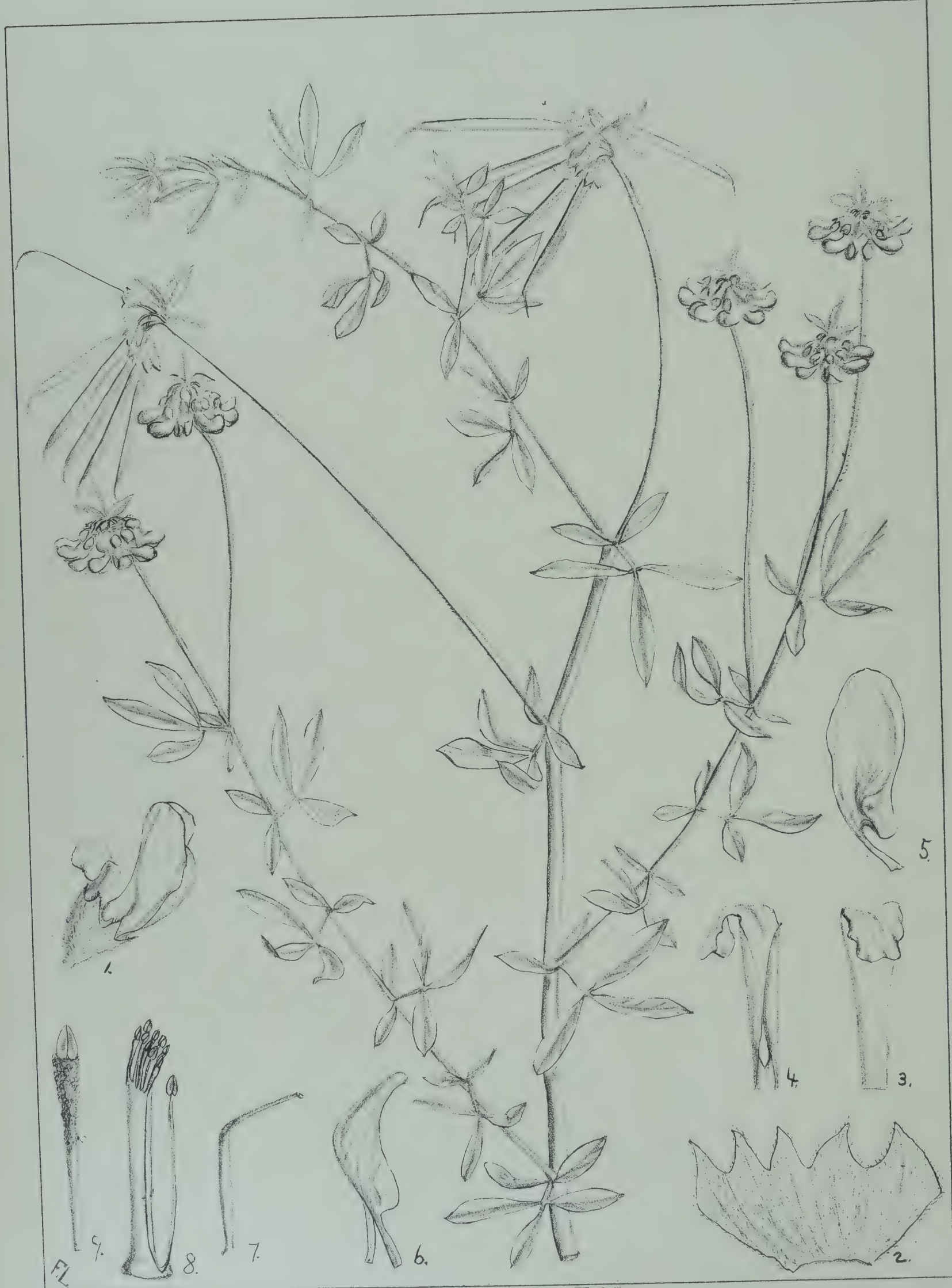
Habitat: NATAL: Inanda, 1,800 feet alt., *Wood* No. 134; Umlaas location, July, *Wood*; Umhlanga, 800 feet alt., *Wood* 7942.

A tree flowering very profusely in the winter time when but few of the old leaves are left, the young leaves appearing after the flowering season. It is usually found outside the bush on dry hills, and the old leaves are coriaceous and harsh to the touch on account of the stellate hairs with which they are furnished; the bark is fibrous, but is not used in any way as far as we are aware. *D. natalensis* is described in the 1st volume of the present work, Plate 90. Two species are figured in *Thesaurus capensis*, viz., *D. dregeana*, Plate 89, and *D. Burgessieæ* Plate 137, 138, and of the known Natal species there remains only *D. cymosa* to be figured when good specimens can be obtained; it is a tree of the midlands. *D. rotundifolia* is also found in Transvaal.

Fig. 1, calyx; 2, petal; 3, stamens and staminodes; 4, ovary, style and stigma; *all enlarged*.



Dombeya rotundifolia, Planch.



Lotus discolor, E. Mey.

PLATE 230.

LOTUS DISCOLOR, E.M. (Comm. Pl. Af. Aust. 92).
Natural Order, LEGUMINOSÆ.

A diffuse suffruticose plant with many divaricately branching stems from a perennial root. Stems and branches terete or striate, pubescent, older glabrous. Leaves alternate, sessile, 3-5 foliolate, leaflets oblong-cuneate to oblanceolate, subsessile or very shortly petiolate, entire, acute at apex, tapering to base, midvein prominent beneath, margin thickened, pubescent with white hairs beneath, sparingly so above, dark green on upper surface, paler beneath; terminal leaflet 5-9 lines long, 2-3 lines wide, lowest pair, 3-4½ lines long, 1½-2 lines wide; common petiole channelled above, 2-2½ lines long, having a glandular swelling below at junction of uppermost pair of leaflets, pubescent. Flowers in axillary and terminal long pedunculated, few flowered umbels, dull greenish or yellowish white. Peduncles 2-4 inches long, longest in fruit, terete, pubescent, each umbel subtended by a small trifoliate bract similar to the leaves, but smaller. Calyx campanulate, pubescent, bilabiate, upper lip 2-toothed, lower 3-toothed, the teeth acuminate, upper ones largest. Corolla papilionaceous, vexillum shorter than alæ, obtuse, emarginate, strongly reflexed, margins incurved towards base; alæ oblong, clawed, subsaccate at base, 4 lines long, claw 1½ line long, curved; carina rostrate, dark coloured and shining at apex, shading off to dull pink in centre, dull white at base; 3 lines long. Stamens 10, diadelphous, 9-1, filaments thickened at apex, minutely glandular, anthers oblong, basifixed. Ovary cylindrical, many ovuled, glabrous, style shorter than ovary, strongly knee-bent; stigma minute, capitate. Legume linear, compressed, many seeded, septate between the seeds.

Habitat: NATAL: Inanda, 1,800 feet alt., November, *Wood*; near Durban, 100 feet alt., April, *Wood*. Zululand, April, *Wood* No. 3952.

Of this genus about 100 species have been described, but according to the *Genera Plantarum* this number may be reduced to less than 50. The species here described is the only one known to be indigenous in Natal. In the *Fl. Capensis* the calyx is said to be "5-cleft or 5-toothed," but in all the specimens we have examined it is as stated in the text. The lowest pair of leaflets have been described as stipules, but close examination will show that they are really leaflets, and the bracts subtending the umbels are exactly similar to the leaves, but 3, not 5-foliolate, and never more than one to each umbel. Some of the European species are said to be good fodder or meadow plants, and one or more of them are known as "Bird's foot Trefoil."

Fig. 1, flower; 2, calyx opened; 3, vexillum back view; 4, same front view; 5, ala; 6, carina; 7, ovary style and stigma; 8, diadelphous stamens; 9, a stamen; *all enlarged*.

PLATE 231.

KRAUSSIA LANCEOLATA, Sond. (in Linn. xxiii., p. 53).
Natural Order, RUBIACEÆ.

An erect branching shrub reaching to 15 feet in height, branches yellowish, quadrisulcate, compressed at nodes, glabrous, twigs green. Leaves opposite, petiolate, stipulate, lanceolate, tapering to the short petiole, and upwards to an obtuse or subacute apex, margins entire, wavy, slightly recurved, subcoriaceous, glabrous, veiny on both surface; $3-4\frac{3}{4}$ inches long, $\frac{3}{4}-1\frac{1}{2}$ inch wide; petiole 2-4 lines long. Stipules cuspidate from a broad base, the cusp linear, $1\frac{1}{2}-2$ lines long. Inflorescence, axillary, cymose, cymes very much shorter than the leaves, few-flowered, flowers scented. Calyx gamosepalous, 5-toothed, tube ovate, lobes obtuse or subacute, equalling tube, 1-2 lines long including the very short pedicel. Bracts and bracteoles sheathing, ciliolate. Corolla gamopetalous, 5-lobed, tube cylindrical, widening a little to throat, shorter than lobes, with a dense ring of white hairs in throat, lobes oblong, recurved, 2-lines long, 1 line wide. Stamens 5, alternate with corolla lobes, filaments shorter than corolla lobes; anthers 2-celled, apiculate, the connective being produced beyond the cells; shorter or longer than the filaments. Ovary inferior, 2-celled, cells 1-ovuled. Style equalling the stamens, gradually thickened towards the apex. Stigmas 2, short, thickened, more or less recurved. Fruit a 2-celled globose berry the size of a small pea, crowned by the calyx lobes.

Habitat : NATAL : Inanda, 1,800 feet alt., October, *Wood* No. 255; near Durban, 100 feet alt., September, *Wood*.

Drawn and described from the Durban specimens.

The genus *Kraussia* is exclusively an African one, and includes 3 species only, two of which are found in Natal, and one in Tropical Africa. In the *Flora Capensis* 4 species are enumerated, one, *K. pavettoides* has been removed to *Webera*, and is now known as *Webera Sonderiana*, the other to *Tricalysia*, and is known as *Tricalysia Sonderiana*; these two species will be figured when opportunities occur. The plant here described is known to the natives as um-Sunambuzi.

Fig. 1, portion of branch with inflorescence; 2, calyx; 3, corolla opened; 4, ovary, style and stigma; 5, fruit; *all enlarged*.



Kraussia lanceolata, Sond.





Royena pallens, Thb.

PLATE 232.

ROYENA PALLENS, Thb. (Prod. Pl. Cap. 80).
Natural Order, EBENACEÆ.

An erect much branched shrub, occasionally reaching to 15 feet in height. Root black, hard, and tough. Bark of branches reddish-brown, densely silky-pubescent, sometimes glabrescent. Leaves alternate, exstipulate, petiolate, obovate or oblanceolate, entire, obtuse or submucronate at apex, tapering at base to a short petiole, pubescent; $\frac{1}{2}$ – $2\frac{1}{4}$ inches long, $\frac{1}{4}$ –1 inch wide; petiole 2–4 lines long. Flowers yellow. Peduncles axillary, solitary, 1-flowered, 4–5 lines long, bibracteate, one bract a little below the calyx, the other above middle of pedicel, bracts linear, 2–3 lines long. Calyx 5-parted nearly to base, lobes acuminate, $1\frac{1}{2}$ –2 lines long, silky, accrescent in fruit. Corolla gamopetalous, 5-lobed, 3–4 lines long, tube short, green and inflated at base, yellow above, lobes oblong, acute, recurved, twisted to the left. Stamens 10, at base of corolla tube in one row, erect, densely pilose, filaments short, thickened and compressed. Anthers 2-celled, acute, 1 line long, including the filament. Ovary pilose with white hairs. Style 5-fid, hairy, stigmas obtuse, glabrous. Fruit subglobose or ovoid, subtended by the accrescent calyx lobes, pubescent or glabrescent.

Habitat: NATAL: All over the Colony. Inanda, 1,800 feet alt., *Wood* No. 214; near Durban, 100 feet alt., September, *Wood*. Also in Cape Colony and Tropical Africa.

Drawn and described from the Durban specimens.

Of this genus we have in Natal 5 or 6 species, one of which *R. villosa* is figured and described in this work, Plate 201. The above described species has no useful properties so far as known to us, but its tough black roots have probably been the cause of more breakage to ploughs and gear than those of any other plant we have.

Fig. 1, flower; 2, calyx; 3, corolla opened; 4, anther back and front view; 5, ovary, style and stigma; 6, cross section of ovary; *all enlarged*.

PLATE 233.

HOFFMANSEGGLIA SANDERSONI (Harv.), J. M. Wood (Fl. Cap. Vol. 2, p. 270).
Natural Order, LEGUMINOSÆ.

A low herbaceous plant with several annual stems from a perennial root, the whole plant except the petals and stamens sprinkled with resinous dots. Stems erect, 6–18 inches high, terete, thickly covered with scaly reddish hairs, which are often branched near apex, and also with black resinous dots, which project from the surface. Leaves bipinnate, in 4–5 pairs with a terminal one; 3–5 inches long, the lateral pinnæ, 8–16 jugate, $1\frac{1}{2}$ –3 inches long, terminal not longer than the lateral ones, scaly like the stem and minutely pilose; all abruptly pinnate; leaflets obliquely ovate, subcordate at base, emarginate at apex, quite entire, the resinous dots brown (black when dry), sunk in the substance of the leaf, chiefly confined to the margin, occasionally on the surface of the lamina, sometimes absent; 4–5 lines long, 2–3 lines wide. Stipules linear-oblong, lacerate at apex, gland dotted on surface; 3–5 lines long. Inflorescence racemose, racemes terminal, erect, distantly many flowered; bracts lanceolate, deflexed, deciduous; pedicels 3–5 lines long. Calyx deeply 5-parted, 4 upper segments oblong, erect, lower largest, ovate, deflexed, minutely toothed at apex. Petals 5, on throat of calyx, ovate, the two lower ones recurved, two upper ones erect; all pink, the fifth one erect in centre of flower, and in front of the two upper ones, orange. Stamens 10, deflexed, the filaments protruding between bases of the two lower petals, and lying in the concave lower calyx lobe, equalling it in length, filaments hairy at base; anthers oblong similar, ovary pilose; style cylindrical, glandular at base; stigma hooked. Legume compressed, 2–4 seeded, setose, the seta plumose, the surface thickly covered with black, globose, sessile glands; $1\frac{1}{2}$ –2 inches long, $\frac{1}{2}$ – $\frac{3}{4}$ inch wide.

Habitat: NATAL: Near Umzimkulu River; Wood No. 1406; Near Richmond; Wood; Glencoe, 4–5,000 feet alt; Wood.

Drawn and described from a plant which flowered in the Botanic Gardens, Durban, October, 1900.

This plant was formerly known as *Melanosticta Sandersoni*, but the genus is now united to *Hoffmanseggia*. Two species only of the genus are found in South Africa, the one here described, and *M. Burchellii*, which was found in Zululand, and is also a native of Tropical Africa, while *Hoffmanseggia Sandersoni* so far as known to us has only been found in Natal and Transvaal. The roots have been used for tanning leather, and the juice of the roots is said to be useful as an application to horses backs when chafed by the saddle.

Fig. 1, a flower; 2, calyx opened; 3, one of the four similar petals; 4, dissimilar petal, front and back view; 5, stamens; 6, ovary, style and stigma; 7, legume, natural size; except Fig. 7, all enlarged.



Hoffmanseggia Sandersoni, (Harv) Wood.



Crotalaria globifera, E. Mey.

PLATE 234.

CROTALARIA GLOBIFERA, E.M. (Fl. Cap. Vol. 2, p. 44).
Natural Order, LEGUMINOSÆ.

An erect, branching plant, having many stems from a thick woody root. Stems and branches angular, more or less canescent with minute whitish adpressed hairs. Leaves digitately 3-foliate, cuneate oblong, terminal one largest; quite entire, glabrescent above, pubescent with fine white silky hairs beneath, young ones silvery pubescent; terminal leaflets $\frac{1}{2}$ – $1\frac{1}{2}$ inch long, $1\frac{1}{2}$ –4 lines broad, lateral ones 5–9 lines long, $1\frac{1}{2}$ –3 lines broad; common petiole reaching to 1 inch long; petiolules $\frac{1}{2}$ –1 line long. Stipules filiform, minute, deciduous. Inflorescence terminal, racemose; racemes many flowered, flowers yellow. Calyx gamosepalous, pubescent, tube campanulate; limb bi-labiate, upper lip 2-cleft, lower 3-cleft, lobes lanceolate; bracts 2, filiform. Corolla papilionaceous; vexillum large, erect or reflexed, cordate, emarginate, having two rounded pubescent ridges above the claw; alæ oblong, clawed, the claw twisted, the lamina honeycombed on one side above the claw; carina rostrate. Stamens 10, monadelphous, unequal, the 5 longer ones with ovate anthers, 5 shorter with linear-oblong anthers. Ovary 4-ovuled; style strongly knee-bent, laterally pubescent; stigma hispid, subcapitate. Legume shortly stipitate, turgid, ovoid or obliquely so, appressedly pubescent, crowned with remains of the style 2–4 seeded.

Habitat: NATAL: Coast to Midlands. Groenberg, 1,800 feet alt., December, Wood No. 401; Near Gillitt's 2,000 feet alt., August, Wood No. 7949.

Drawn and described from Wood's No. 7949.

A very common plant from the Coast to the midlands, and perhaps to the upper districts also, bearing a profusion of yellow flowers in the early spring and summer. It has no economic value so far as known to us, nor can we learn that the natives have any distinctive name for it.

Fig. 1, a flower; 2, calyx opened; 3, vexillum; 4, ala; 5, carina; 6, stamens; 7, ovary, style and stigma; *all enlarged*.

PLATE 235.

LOTONONIS CORYMBOSA, Benth. (Fl. Cap. Vol. ii., p. 63).
Natural Order, LEGUMINOSÆ.

A low plant having many simple, or occasionally branched stems from a thick woody root. Stems erect or ascending, 4-9 inches high, terete, pilose with long white hairs. Leaves trifoliate, alternate, petiolate, stipulate; leaflets obovate, oblong or elliptical, subsimilar or the terminal one slightly larger, entire, apiculate, midvein prominent beneath, margins thickened; densely pilose on both surfaces, ciliate; 8-12 lines long, 3-6 lines wide; common petiole 1-4 lines long, petiolules 1-2 lines long. Stipules similar to the leaflets but smaller, much longer than the petiole. Inflorescence corymboso-capitate, flowers yellow. Calyx gamosepalous, pedicellate, 5-fid, the lowest segment narrower than the others, which are connate in two lateral lobes each of which is bifid; $2\frac{1}{2}$ -3 lines long, pubescent; bract small 1 line long. Corolla papilionaceous, pubescent; vexillum oblong-acuminate, alæ oblong, wrinkled at upper margin; carina oblong, curved; all clawed and with spur-like projection above the claw. Stamens 10, monadelphous; anthers ovate, similar. Ovary many ovuled, pubescent. Style subulate, stigma minute, capitate. Legume oblong, oblique, compressed, tipped with remains of the style, about twice as long as the persistent withered calyx, glabrescent; 2-4 seeded by abortion.

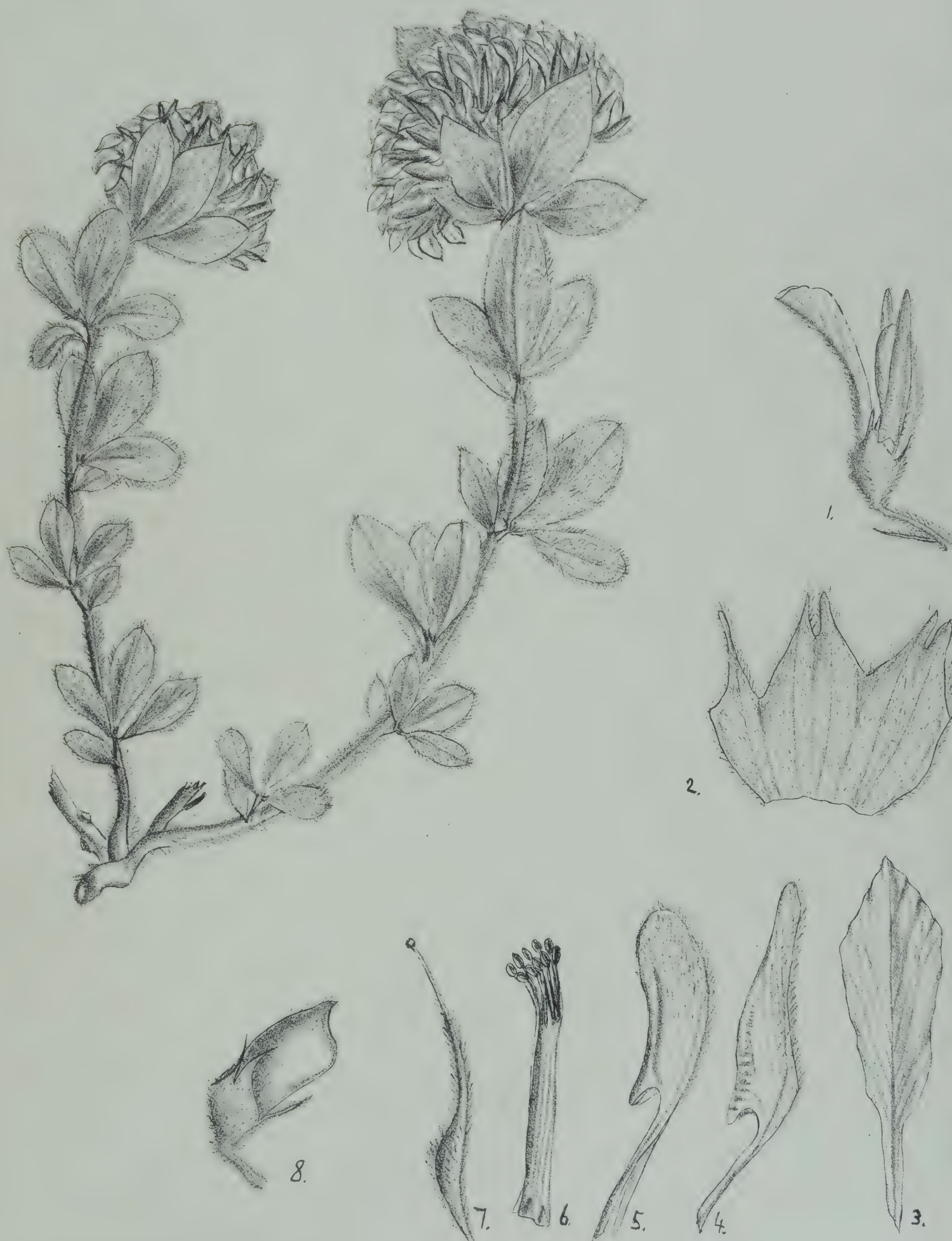
Habitat: NATAL: On hillsides all over the Colony.

Drawn and described from Wood's No. 7944, gathered near Botha's Hill Railway Station.

This is the second species of *Lotononis* which has been figured and described in the present work, the first one being *L. grandifolia*, Bolus (Natal Plants, Plate 9).

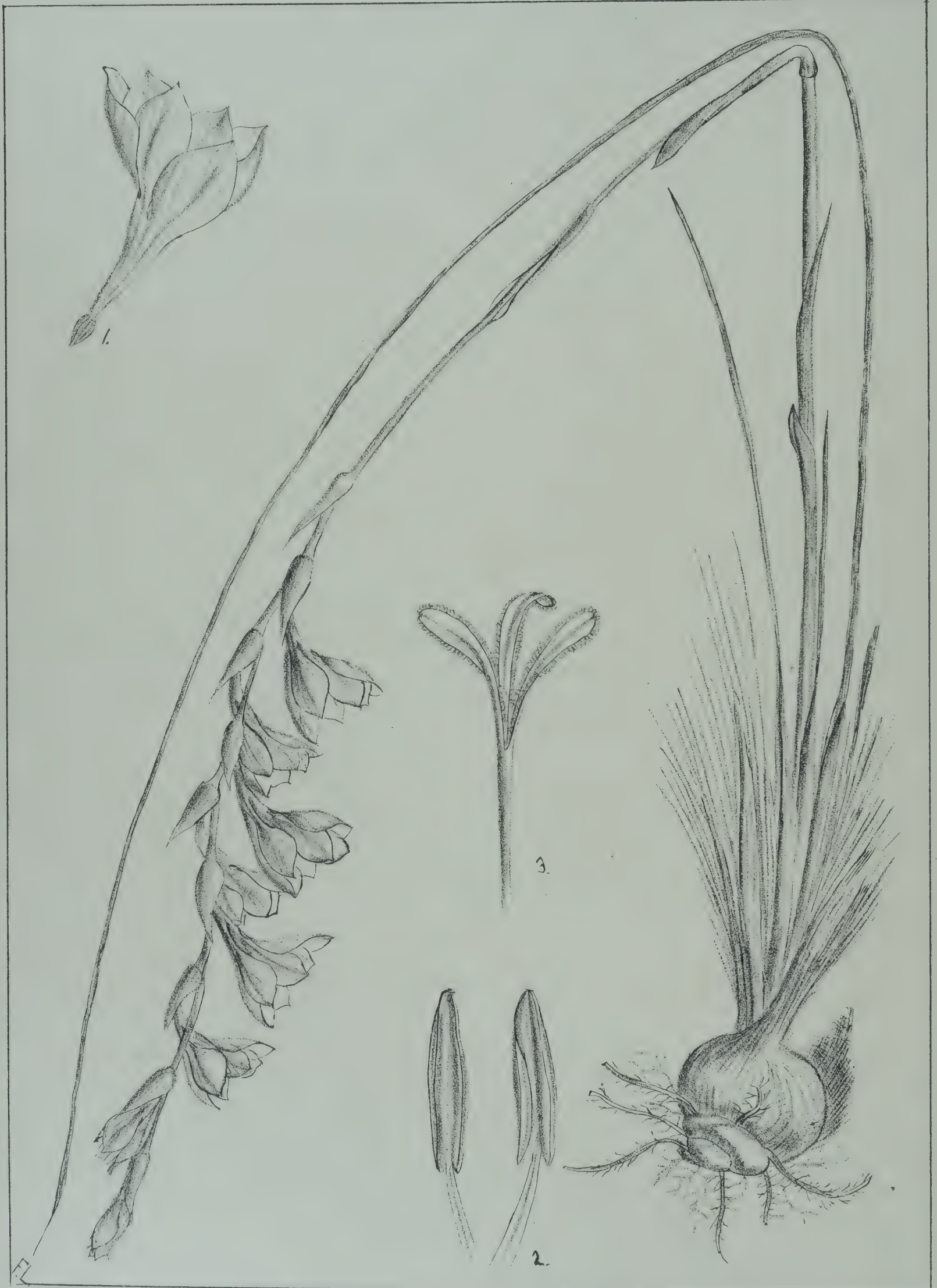
The genus includes 60 or more species, nearly all of which are natives of South Africa, not more than about half a dozen being natives of other countries. The species above described is in Natal the most common of the genus, and its bright yellow flowers are very conspicuous. A variety with glabrous petals was collected at Liddesdale (*Wood* No. 4253) *L. corymbosa* is known to the natives as um-Hloboluku, or um-Hlambaluku, and they use the roots as a tonic.

Fig. 1, a flower; 2, calyx opened; 3, vexillum; 4, ala; 5, carina; 6, stamen; 7, ovary, style and stigma; 8, legume; *all enlarged*.



Lotononis corymbosa. Benth.

F.L.



Gladiolus inandensis, Baker.

PLATE 236.

GLADIOLUS INANDENSIS, Baker (Fl. Cap. Vol. vi., p. 144.)
Natural Order, IRIDEÆ.

A low growing, gregarious plant, bearing few flowered racemes of whitish flowers with red keel. Corm globose, $\frac{3}{4}$ –1 inch diameter, orange coloured with tunics of fine parallel fibres, which are connected by a delicate membrane, glabrous and shining outside, duller inside. Leaves 1, or several to each corm, linear, as long as, or a little longer than the flowering stem; glabrous. Flowering stem simple, 1–1½ foot long, glabrous, with 3–5 sheathing leaves, the lowermost one often with a long point, others acute. Flowers 6–10 in a lax secund spike; outer spathe-valve, green, oblong-lanceolate; $\frac{1}{2}$ inch long. Perianth funnel-shaped, tube curved, $\frac{1}{2}$ inch long, segments obscurely cuspidate, $\frac{1}{2}$ – $\frac{5}{8}$ inch long; white with red keel outside, the upper one obovate, $\frac{1}{3}$ inch broad, lower oblong, clawed. Stamens 3, reaching half way up the limb.

Habitat: NATAL: Midlands. Inanda, 1,800 feet altitude, August, *Wood*, Nos. 177, 237; near Botha's Hill, 1,800 feet altitude, October, *Wood*; near Gillitt's, 1,900 feet altitude, *Wood* No. 7947.

Drawn and described from *Wood's* No. 7947.

The genus *Gladiolus*, according to the *Flora Capensis*, includes about 140 species, 81 of which are found in South Africa, and 41 in Tropical Africa, one only of the Tropical African species reaches to South Africa. In Natal we have nearly or quite 20 species, many of which are well worth cultivation, and some of them are already cultivated in Europe. Numerous hybrids of these plants have been reared and are very ornamental.

The species here described was, until the publication of *F. Cap.* Vol. vi., supposed to be *G. brevifolius*, Jacq, to which plant it is nearly allied, but *G. brevifolius* appears to be confined to the Cape Colony.

Fig. 1, a flower; 2, stamens front and back view; 3, style and stigmas; *all enlarged*.

PLATE 237.

OLEA WOODIANA, Knobl. (in Engl. Bot. Jahrbuch. xvii., (1893) 532).
Natural Order, OLEACEÆ.

A tree 20 to 30 feet high with trunk 1 foot or more in diameter. Bark smooth, ash coloured, glabrous; twigs angular. Leaves opposite, decussate, petiolate, exstipulate, oblong-lanceolate to linear-lanceolate, margin entire, a little thickened, undulate, slightly recurved, glabrous and shining above, dull beneath, acute, acuminate, emarginate or obtuse at apex, tapering gradually to the petiole at base, midvein conspicuous beneath, veinlets immersed; $1\frac{1}{2}$ –3 inches long, 5–12 lines wide; coriaceous; petiole reaching to $\frac{1}{2}$ inch long, a little thickened at base. Inflorescence axillary, paniculate, flowers white. Panicles a little shorter than the leaves, the ultimate divisions 2–4 flowered; bracts linear, deciduous, equalling pedicels. Calyx minute, open, 4-fid, teeth acute, the calyx with pedicel $\frac{1}{2}$ –1 line long. Buds globose. Corolla gamopetalous, 4-lobed, tube very short, lobes ovato-oblong, spreading to $2\frac{1}{2}$ lines diameter. Stamens 2, inserted on opposite sides of the corolla tube at throat, filaments short, anthers large, 2-celled, introrse, equaling the filament in length, dorsifixed, the cells a little divergent at apex. Ovary superior, 2-celled, cells 2-ovuled; style short, stigma 2-lobed, lobes adherent. Fruit an oblong leathery drupe, 3–5 lines long, 2–3 lines wide, 1-seeded by abortion.

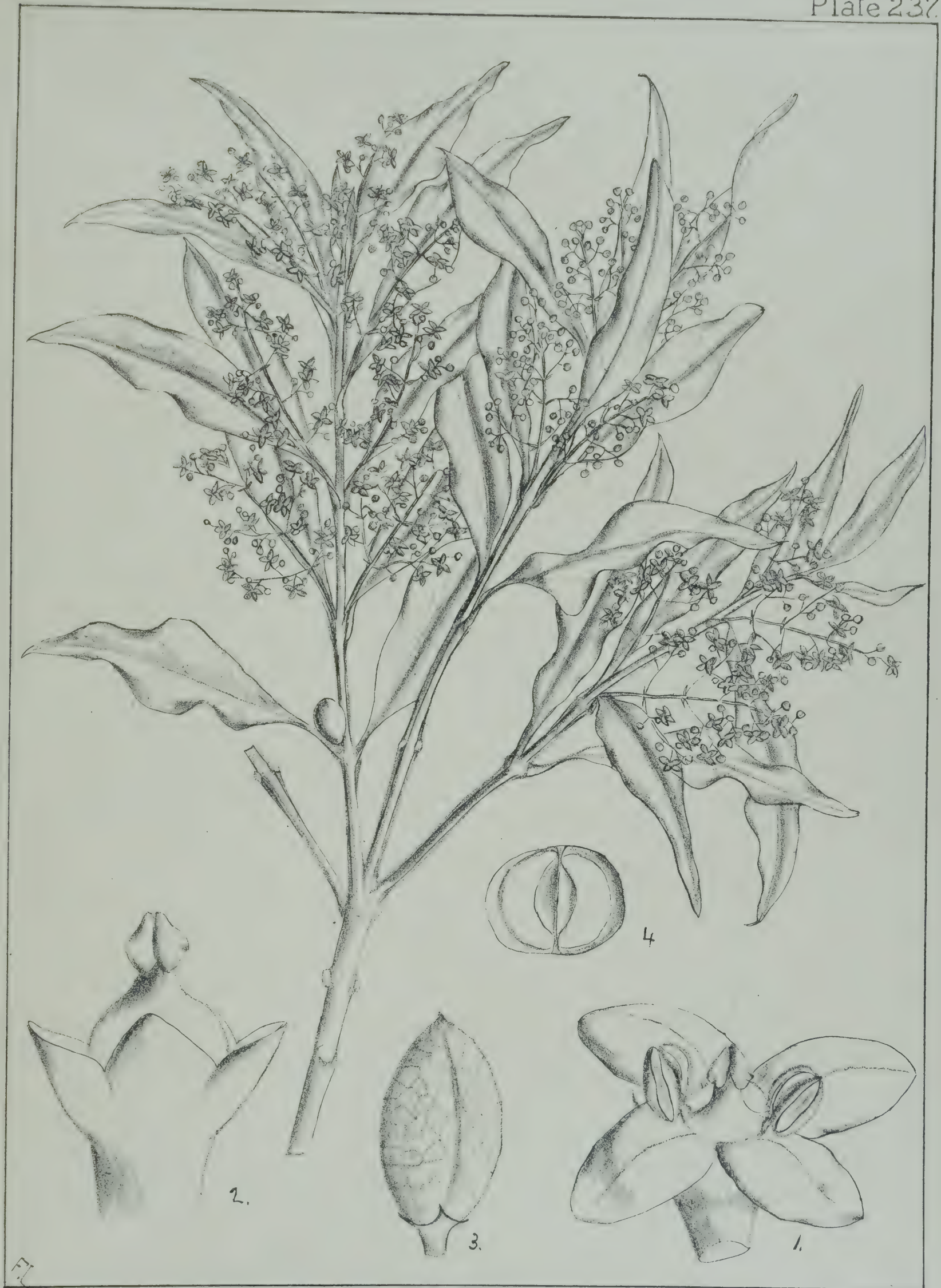
Habitat : NATAL : In coast forests, *Wood* No. 7879.

Drawn and described from specimens gathered in wood near the sea, November, 1900, *Wood* No. 7945.

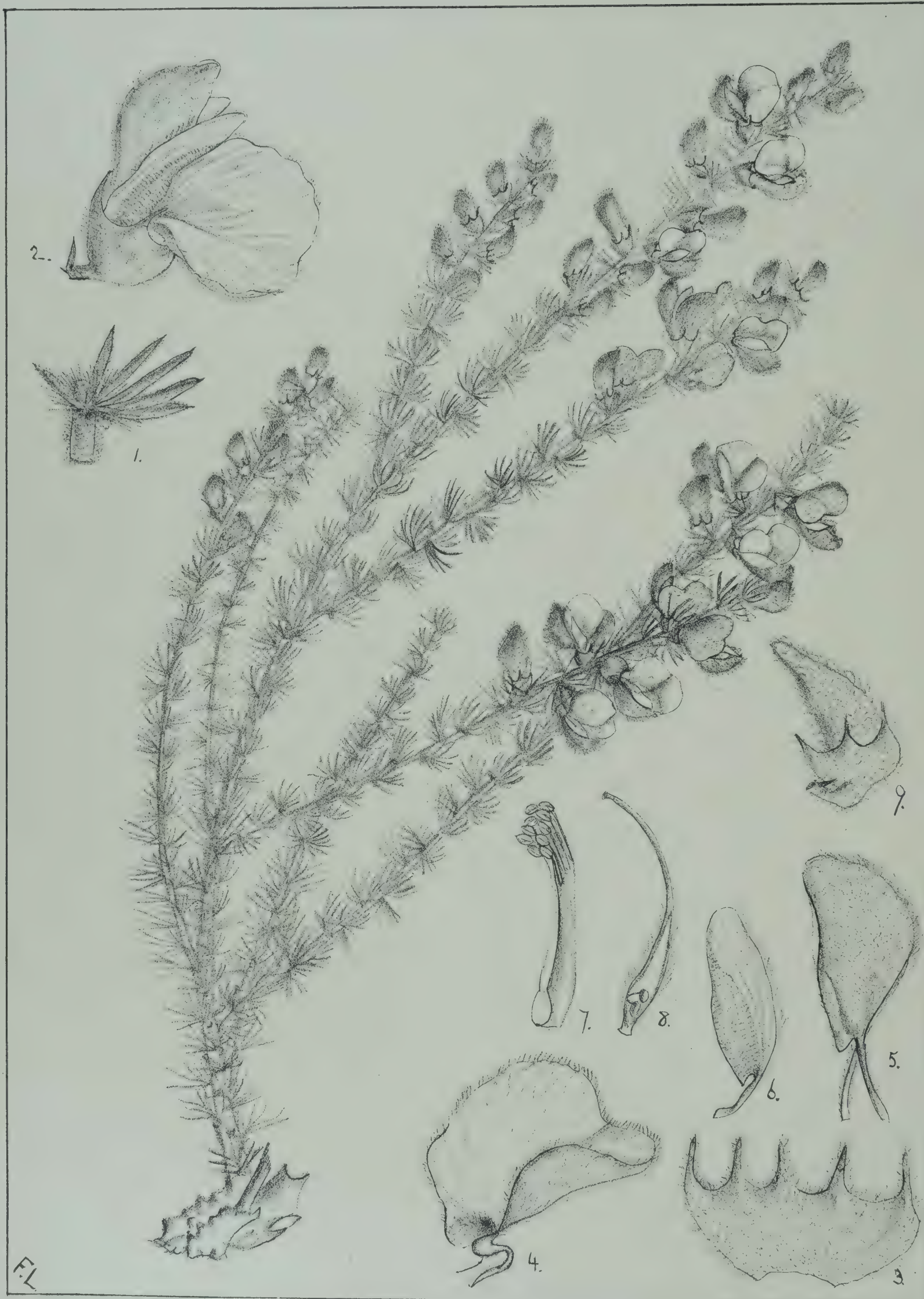
This tree does not appear to be very common in Natal, and was described from specimens gathered by the writer some years ago. I now learn from Mr. T. R. Sim, F.L.S., that it is found in the coast forests of Pondoland, and also in Transkei and Caffraria. It is not alluded to in Fourcadi's Report on Natal Forests, and the natives appear to confuse it with *O. verrucosa*, and give it the same name "um-Quma" and they only use the saplings for walking sticks.

The genus *Olea* contains about 35 species, the best known of which is *O. europæa*, the common olive. In Natal we have now four species, and the wood of at least three of them is used for wagon work.

Fig. 1, flower; 2, calyx ovary and stigma, corolla removed; 3, fruit; 4, cross section of fruit; *all enlarged*.



Olea Woodiana, Knobl.



Aspalathus laricifolia, Berg.

PLATE 238.

ASPALATHUS LARICIFOLIA, Berg. (Fl. Cap. Vol. ii., p. 120).
Natural Order, LEGUMINOSÆ.

A many stemmed and much branched low undershrub, 10 to 18 inches high. Stems and branches densely pubescent, especially the younger ones, and with dense tufts of white hairs at nodes, terete, unarmed. Leaves heath-like, in dense tufts, linear-subulate, mucronate, minutely and sparsely pilose with slender white deciduous hairs, older glabrescent, 2-5 lines long. Flowers solitary, axillary, sessile, yellow, lateral, in upper portion of stem and branches, having the appearance of a racemose inflorescence. Calyx gamosepalous, tube campanulate, densely woolly; limb 5-cleft, teeth subulate, shorter or longer than the tube; bract minute, linear, $\frac{3}{4}$ line long. Corolla papilionaceous; vexillum orbicular, emarginate, pubescent outside, glabrous within, erect, shortly clawed, with two narrow ridges above the claw, 5 lines long and wide; alæ oblong, long clawed, ciliate on one edge, cross ridged and wrinkled in lower half; 4 lines long, $1\frac{1}{2}$ line wide; carina incurved, long clawed, villous-pubescent on outer surface, 4 lines long, 2 lines wide. Stamens 10, monadelphous, staminal tube split to base, anthers small, oblong, similar. Ovary 2-ovuled, densely villous; style subulate, stigma truncate, minutely hairy. Legume obliquely lanceolate, sub-acute, densely villous, 1-2 seeded.

Habitat: NATAL: From 1-3,000 feet above sea level. Inanda, 1,800 feet alt., Wood No. 390; near Botha's 2,000 feet alt., November, Wood No. 7946.

Drawn and described from Wood's No. 7946.

This genus includes about 150 species, all natives of South Africa, and of these only four or five have been found in Natal, the remainder being natives of Cape Colony. They are shrubs and undershrubs with usually heath-like leaves, and the flowers are generally yellow, but occasionally red or white. The plant here described has been distributed as *A. sericantha*, Meyer, and in Flora Capensis, Vol 2, page 120, Meyer's *A. sericantha* is reduced to a variety of *A. laricifolia*, the differences between type and variety being that in the variety the calyx teeth are said to be nearly equalling the tube, and the carina villous. In the specimens we have examined we find that the calyx teeth vary in length in different flowers on the same plant, and the carina is always villous, but as in the description of the type it is stated that the carina is "glabrous or villous" we fear that the variety cannot be maintained. The plant does not appear to have any useful properties and the natives have no distinctive name for it.

Fig. 1, tuft of leaves; 2, a flower; 3, calyx opened; 4, vexillum; 5, carina; 6, ala; 7, staminal tube; 8, section of ovary, showing ovules, style and stigma; 9, legume; all enlarged.

PLATE 239.

DIPCADI VIRIDE, Moench (Fl. Cap. Vol. vi., p. 449).
Natural Order, LILIACEÆ.

A somewhat succulent bulbous herb. Bulb globose or ovoid, $\frac{3}{4}$ –1 inch diameter. Leaves 2–6, linear, erect, fleshy, channelled, glabrous; 6–15 inches long, 2–5 lines wide and equitant at base. Peduncle erect, terete, glabrous, 10–24 inches long. Racemes very lax, 6–15 flowered, lower pedicels $\frac{1}{4}$ – $\frac{1}{3}$ inch long. Flowers brownish green, nodding; bracts ovate-oblong with a long cusp. Perianth gamophyllous, tube oblong-cylindrical, segments 6, dimorphic, the three outer ones longest, acuminate, cucullate, and thickened a little above the centre, reflexed; the three inner ones connivent, the short free apices spreading, the whole perianth $\frac{1}{2}$ –1 inch long. Stamens 6, included, inserted below throat of tube, sub-biseriate; filaments shorter than the anthers; anthers linear-oblong, 2 celled, dehiscing introrsely. Ovary superior, subsessile, 3-celled, ovules many in each cell, superposed; style cylindrical; stigma truncate. Capsule bluntly 3-angled, loculicidal, membranous, with transverse veins; seeds 15–20 in each cell.

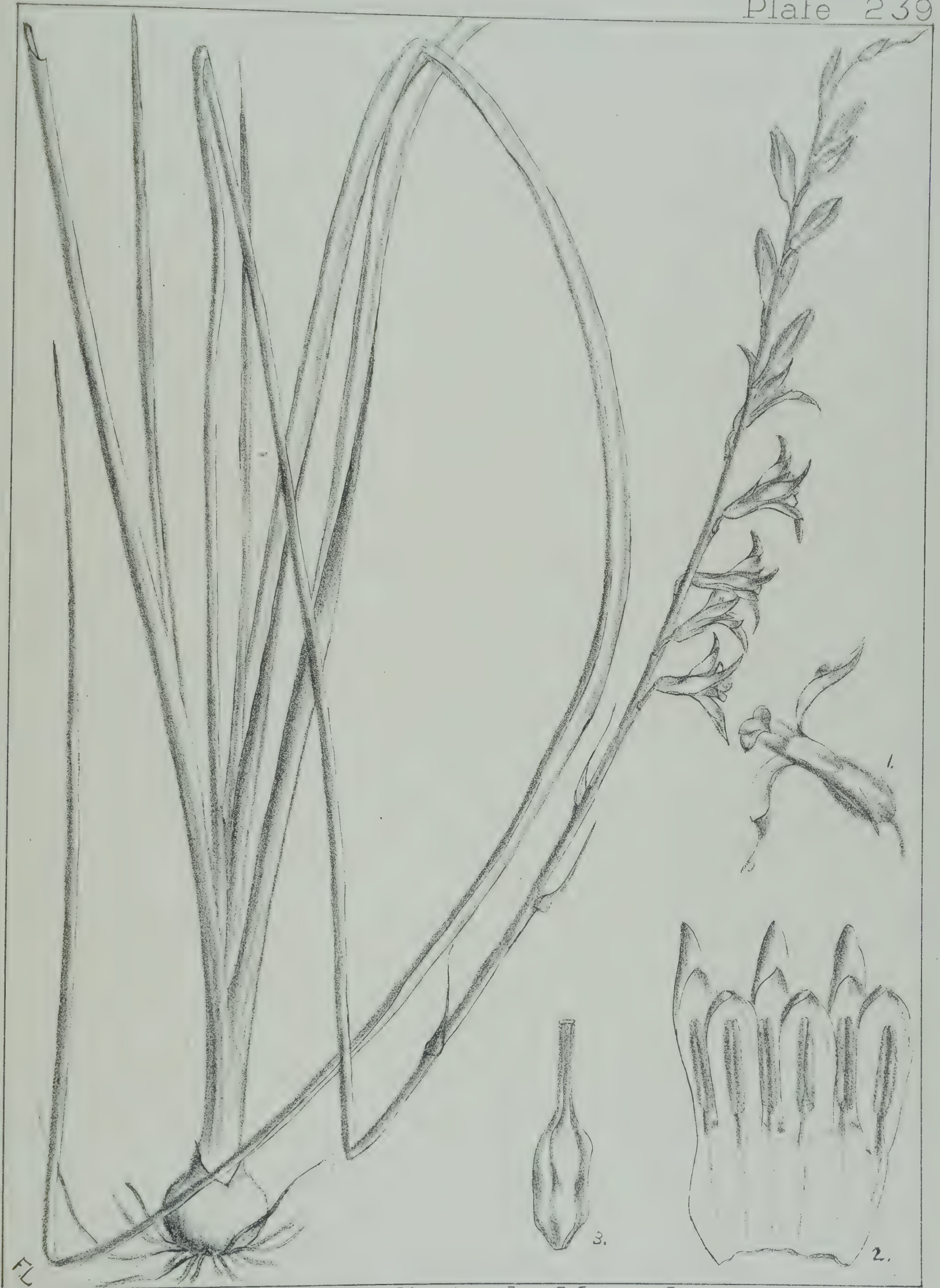
Habitat: NATAL: Inanda, 1,800 feet altitude, *Wood* No. 266; 384; near Mooi River, 4-5,000 feet altitude, October, *Wood* No. 5623; Nottingham, Buchanan, No. 144; near Durban, 100 feet altitude, December, *Wood*.

Drawn and described from the Durban specimens.

This genus, according to the *Genera Plantarum*, contains about 20 species inhabiting Southern Europe, Africa, and India, but to this number many species have been added since the publication of that work. In Harvey's *Genera of South African plants* these species were included in the genus *Uropetalum*, but that genus has since been merged in *Dipcadi*.

In Vol. vi. of the *Flora Capensis* which was published in 1897, sixteen species are described as South African, and of these five are said to have been identified in Natal, the remainder being found in other parts of South Africa. In the *Flora of Tropical Africa*, Vol. vii., 25 species are enumerated and described, only two of which are natives of South Africa, the above described species being one of them and *D. Clarkeanum* the other. The natives do not appear to have any distinctive name for this plant, nor so far as we can learn do they use it in any way.

Fig. 1, a flower; 2, perianth opened; 3, ovary, style and stigma; *all enlarged*.



Dipcadi viride, Moench.



Menodora africana, Hook

PLATE 240.

MENODORA AFRICANA, Hook (Ic. Plant, t. 586).
Natural Order, OLEACEÆ.

A small undershrub with yellow flowers. Stem woody, erect, reaching 4-6 inches high, much branched at or near apex, branches slender, finely pubescent or glabrescent, leafy throughout, ribbed. Leaves scattered, multifid, heathlike, segments linear, $\frac{1}{2}$ -2 lines long. Flowers axillary and terminal, pedunculate, peduncles 1-4 lines long. Calyx gamosepalous, tube very short, campanulate, of thin texture, finely pubescent; limb 10 lobed, lobes varying from simple and linear to 2-3 fid with linear lobes; the whole calyx about 3-4 lines long. Corolla gamopetalous, tube short, limb 5-lobed, spreading to $\frac{3}{4}$ inch, lobes ovate-oblong, acute, imbricate in bud. Stamens 2, on throat, exserted; anthers linear-oblong, 2-celled, dorsifixed, dehiscing laterally. Ovary free, 2-celled, ovules 2-4 in each cell. Capsule didymous, papery, each carpel opening by a transverse slit, the upper portion falling away. Seeds 1-2 in each cell, testa double, outer one spongy, and forming a rib on inner face, cellular, inner membranous.

Habitat: NATAL: Upper districts. Upper Tugela, 4-5,000 feet alt., January, Wood No. 3550; near Ladysmith, 3-4,000 feet alt. November, Wood No. 7948.

Drawn and described from Wood's No. 7948.

This genus includes about 17 species, the distribution of which is somewhat peculiar. In a note to the description of *M. heterophylla* in Icones Plantarum Plate 1459, Professor Oliver says: "The occurrence of this little genus in regions so far apart as Mexico, the Andes of Mendoza, and South Africa is not new to botanists, and now the interest of the case is heightened by Dr. Holub's discovery of a second South African species actually conspecific with a North American one."

The species here figured is the only one as yet found in Natal. *M. juncea*, Harv. is found in Cape Colony, and *M. heterophylla* in Transvaal. The plant does not appear to have any economic value, and we are not able to ascertain whether the natives have any name for it or not. It is strictly an up-country plant, and has not so far been found at a lower altitude than that of Ladysmith so far as known to us.

Fig. 1, a flower; 2, calyx opened; 3, a stamen; 4, ovary, style and stigma; 5, seed; *all enlarged*.

PLATE 241.

UVARIA CAFFRA, E.M. (Fl. Cap. Vol. i., p. 8).
Natural Order, ANONACEÆ.

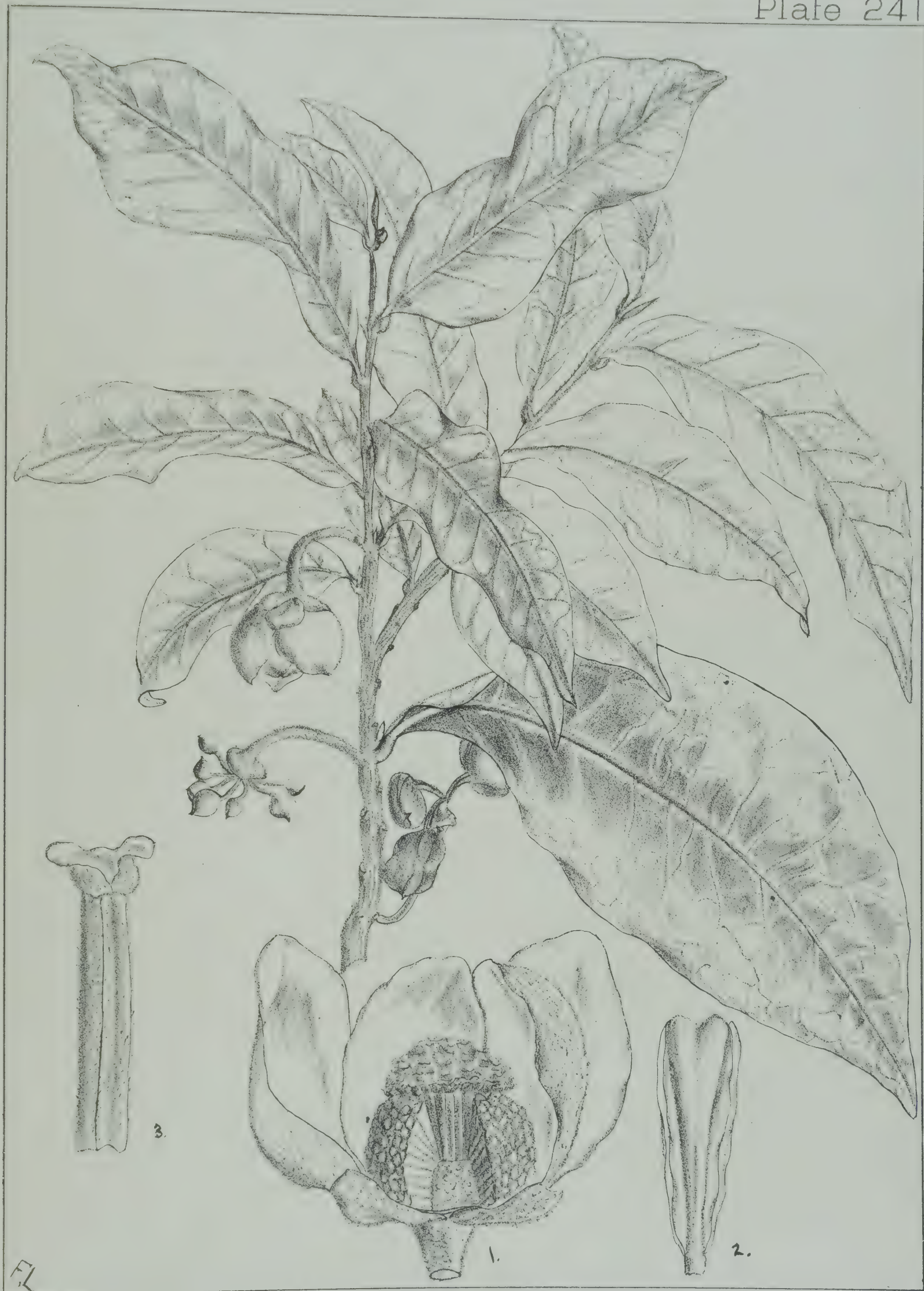
A climbing shrub. Branches dark coloured, glabrescent, young twigs green, pubescent with minute brown stellate hairs. Leaves alternate, petiolate, exstipulate, oblong, tapering to both ends, obtusely acuminate at apex, margin entire, undulate; subcoriaceous, dark green, glabrous and shining on both surfaces; 2-4½ inches long, $\frac{3}{4}$ -1¾ inch wide; petiole 1-3 lines long, strongly curved. Flowers solitary, usually opposite the leaves, green peduncles reaching to $\frac{3}{4}$ inch long, straight or curved, with an early deciduous bract almost enveloping the young bud. Sepals 3, valvate in bud, semi-rotund, of thick texture, minutely stellatopubescent on outer surface; 2-3 lines long and wide. Petals 6, in two rows, imbricate in bud, coriaceous, broadly ovate, minutely pubescent on outer surface; outer ones 5-7 lines long, 4-5 lines wide, broad based, inner a little smaller, and narrowed to base. Stamens very numerous, white, inserted on the torus, and in the freshly opened flower forming a dense subglobose head, surrounding the carpels; linear oblong, compressed, wedge like, anther cells linear, connective expanded, truncate. Torus semi-globose. Carpels indefinite, straight, linear-oblong, angular and furrowed. Stigmas truncate, irregularly lobed, with involute margins, tomentose. Berry ovate to oblong, dark green, yellow when ripe, more or less oblique. Seeds ovate, brown and shining, 3 to 4 lines long.

Habitat: NATAL: In woods from the coast to at least 2,000 feet above sea-level. Inanda, 1,800 feet, November, *Wood* No. 754; January, No. 822; near Durban, 120 feet alt, November, *Wood*.

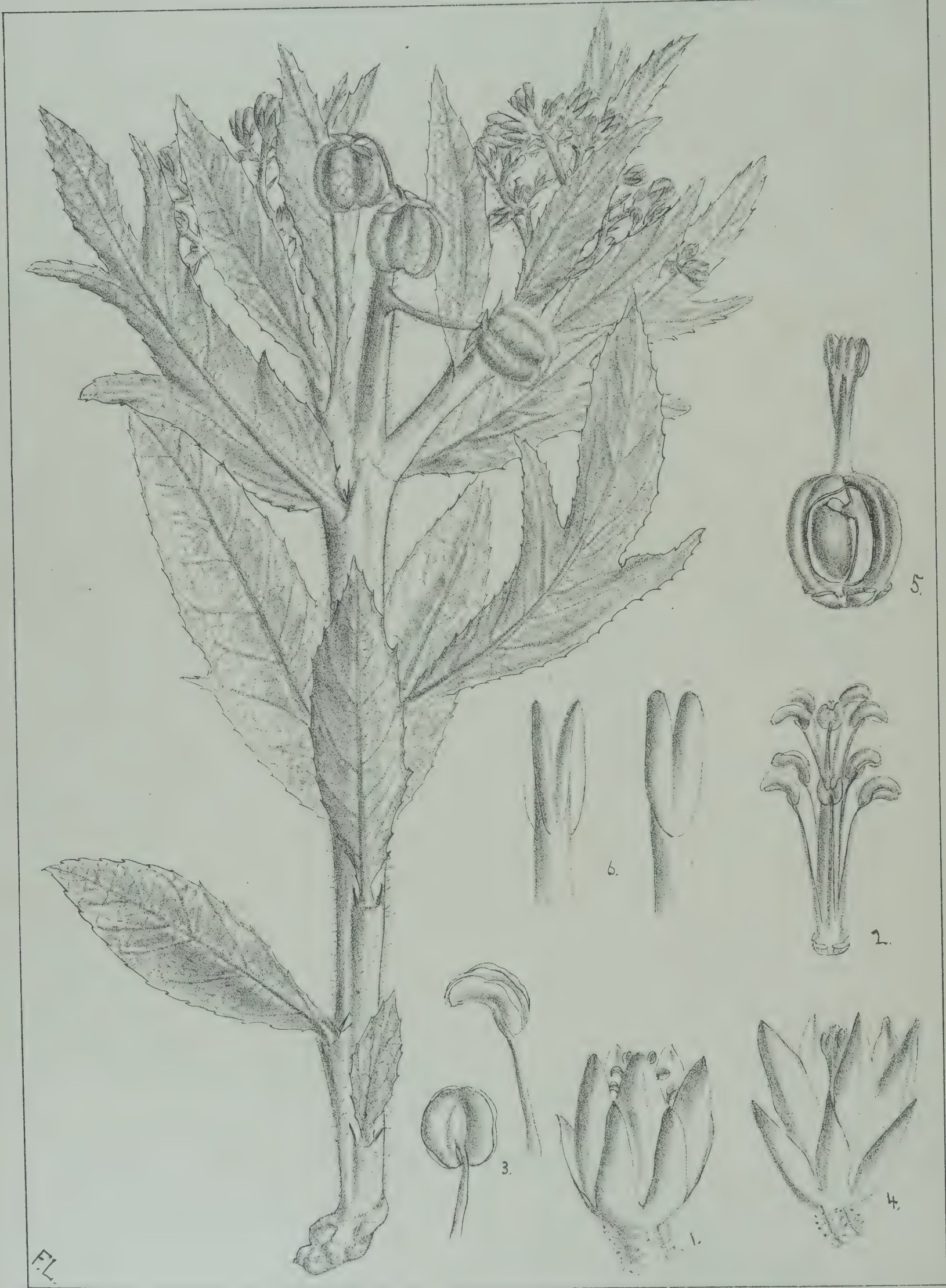
Drawn and described from the Durban specimens.

A rambling shrub not uncommon in coast and midland bush. The genus includes some 35 species, at least 11 of which are found in Tropical Africa, but the one above described is the only one known to inhabit South Africa, all the remainder are natives of India and Australia. The generic name is "an alteration of Uva, a cluster of grapes." The native name is Mazwenda, and the ripe fruits are edible.

Fig. 1, section of flower; 2, stamen; 3, Carpel with stigma.



Uvaria caffra, E.M.



Jatropha natalensis. Muell. Arg.

PLATE 242.

JATROPHA NATALENSIS, Muell. Arg. (in Flora XLVII. (1864) 485.)
Natural Order, EUPHORBIACEÆ.

Stems few or many from a woody root, erect, sparingly branched, terete, sparingly and finely pilose, red-brown; 4 to 15 inches high. Leaves alternate, stipulate, petiolate, simple or irregularly 1 to 4-or more lobed, the simple ones lanceolate, oblong or oblong-lanceolate, the lobes (when present) oblong-acuminate, widely spreading, the number, position, and size of the lobes varying on the same stem, more frequently altogether absent, margins varying from subentire to sharply and irregularly serrate, the conspicuous veins and veinlets having a few pilose hairs on both surfaces; petiole very short, $\frac{1}{4}$ to $\frac{1}{2}$ inch long, often very villous, and swollen at base. Stipules of one or several, small, deciduous bristles. Inflorescence terminal, cymose, flowers monoecious, yellow. Peduncles $\frac{1}{2}$ inch long, hirsute; pedicels hirsute, 1 to 2 lines long. Calyx 5-parted, lobes of calyx of female flower acute, of male obtuse, and the whole calyx a little smaller than that of the female. Bracts linear, glandular, hairy. Petals 5, free, ovate to oblong, alternating with 5 fleshy glands. Stamens in male flower 10, central, filaments united at base, the 3-5 central ones longest. Anthers ovate, 2-celled. Ovary 0. Female flowers usually one in each cyme. Stamens 0. Ovary 3-celled, cells 1-ovuled, ovule affixed to central angle of cell. Style short, stigmas 3, each 2-lobed. Capsule 3-celled, 3-lobed, coriaceous, veiny. Seeds dark brown and shining, carunculate.

Habitat: NATAL: Upper districts. Near Estcourt 3-4,000 feet alt., January, *Wood* No. 3391; near Ladysmith, 3-4,000 feet alt, November, *Wood* No. 7950.

Drawn and described from the Ladysmith specimens.

Of this genus three species are now known in Natal. *J. hirsuta* was figured and described in Vol. I of this work, another species, *J. Zeyheri*, is found near Ladysmith, and will be figured when good specimens can be obtained. The species here described, and *J. Zeyheri* are remarkable for the peculiar cutting of the leaves, sometimes they are quite entire, and scarcely serrate, sometimes with one or more deep spreading lobes, and with or without similar but smaller ones, sometimes almost trilobate, and at others the lobes are central or near the base of the leaf, and frequently closely and sharply serrate, and all or nearly of these forms may often be found on the same plant.

Fig. 1, male flower; 2, stamens of same; 3, anther, back and side view; 4, female flower; 5, ovary style and stigma, back and front view; *all enlarged*.

PLATE 243.

DICHRISTACHYS NUTANS, Benth. (Fl. Cap. Vol. ii., p. 278).
Natural Order, LEGUMINOSÆ.

A shrub or small tree 4 to 10 feet high, armed with sharp spines which are often leaf and flower bearing. Stems and branches terete, glabrous, with fascicles of depauperated leaves (stipules?) at nodes, bark light coloured, young twigs pubescent. Leaves alternate, abruptly bipinnate, petioles channelled above, pubescent, swollen at base, and bearing 1-2 stalked glands between each opposite pair, or the glands sometimes absent; 2-6 inches long to base of terminal pair of pinnæ; pinnæ 3 to 10-jugate, usually opposite, 1-2½ inches long. Leaflets sessile, 5-25-jugate, linear-oblong, obtuse, glabrous. Flowers in dense cylindrical axillary spikes, the upper half of the spike bearing hermaphrodite flowers, yellow, the lower half bearing neuter ones, pink. Peduncles axillary, solitary, nodding, sometimes geminate, the lower portion naked, the upper portion densely floriferous. Calyx, 5-toothed, teeth erect. Corolla 5-cleft, lobes erect, acute, calyx and corolla of perfect and neuter flowers, similar, but those of the perfect flowers a little larger. Stamens 10; in the neuter flowers with elongated thread-like filaments without anthers, in the perfect flowers shorter, with oblong, 2-celled anthers, each bearing at apex a globose stalked deciduous gland. Ovary subsessile, hirsute, style equalling the filaments in length, thickened in central portion. Stigma truncate. Legume strongly compressed, twisted, several together forming a loose semi-globose cluster; few seeded; 2-5 inches long, 5-6 lines wide. Seeds ovate, compressed, brown and shining, 2 lines long, 1½ line wide.

Habitat: NATAL: Coast and probably midland districts, also; near Durban, 100 feet alt., Government Herbarium, Nos. 1449, 7744; near Durban, January, Wood No. 8020.

Drawn and described from Wood's No. 8020.

A small shrub or stunted tree, armed with strong spines, and at once recognised by its bearing flowers of two distinct colours on the same spike, the upper portion yellow, lower pink. The leaf and flower bearing spines though not uncommon, are worthy of notice. The genus contains four or five species of which one is found in Australia, only one in Australia and Tropical Africa, and two or three in Tropical and South Africa. The native name of the species here described is u-Gagaan, the wood is very hard, but is not large enough to be of much practical use.

Fig. 1, neuter flower; 2, hermaphrodite flower; 3, ovary, style and stigma; 4, stamen; *all enlarged*.



Dichrostachys nulans, Benth.



Acacia pennata, Willd.

PLATE 244.

ACACIA PENNATA, Willd. (Fl. Cap. Vol. ii., Page 283).
Natural Order, LEGUMINOSÆ.

A climbing or rambling shrub with white flowers. Stems slender, flexuous, branching. Bark green. Branches terete or striate, glabrous, younger portions only finely pubescent, armed with stout, recurved prickles which are green at base, and brown in upper portion. Leaves abruptly bipinnate, exstipulate, common petiole 3-5 inches long, armed with prickles like the stem and branches, swollen at base, with an ovate or oblong gland above the swelling, and a smaller globose one at base of the terminal pair of pinnæ, young ones pubescent, older glabrous; pinnæ in 5-9 opposite pairs, their petioles striate, pubescent, 8 to 20 jugate, unarmed. Leaflets 15 to 40-jugate, subsessile, linear-oblong, acute at apex, rounded and very oblique at base, glabrous, 4 to 6 lines long, 1 to 2 lines wide, often minutely ciliate, the lowest pair often very minute. Inflorescence in axillary and terminal panicles. Heads globose. Calyx gamosepalous, 5-fid, pubescent, lobes acute, shorter than tube. Corolla gamopetalous, a little longer than calyx, lobes acuminate; pubescent. Stamens numerous, more than twice as long as corolla. Anthers ovate, minute, tipped with a stipitate globose gland. Ovary stipitate, pubescent; style filiform, equalling stamens, not swollen; stigma truncate, minute. Legume strongly compressed, flat, papery, 6 to 12 seeded, 4 to 7 inches long, $\frac{3}{4}$ to 1 inch wide. Seeds dark brown, shining, compressed, oval, 5 lines long, 3 lines wide.

Habitat: NATAL: Coast lands. Congella, near Durban, 100 feet alt. January, Wood 8022.

This plant comes very near to *A. Kraussiana*, Meisn, and is very similar in habit to that plant, but the prickles are larger and more abundant, the leaflets smaller, differently shaped and more numerous. It is quite likely that the plants have been confused with each other, especially as they are often found in close proximity. A specimen in the Government Herbarium (Wood No. 4469) gathered near Weenen, and bearing the name of the plant here described appears to be either a variety of it or another species, the leaflets are very similar, but the legumes are shorter, and prickles not so numerous.

Fig. 1, flower; 2, stamen with gland; 3, ovary, style and stigma; 4, legume natural size; *except Fig. 4, all enlarged.*

PLATE 245.

ACACIA KRAUSSIANA, Meisn. (Fl. Cap. Vol. ii., p. 283).
Natural Order, LEGUMINOSÆ.

A rambling shrub with white flowers. Stems slender, flexuous, branching, bark green. Branches angular, pubescent, armed with numerous small, scattered, recurved prickles, which are green at base, and brown in upper portion. Leaves abruptly bipinnate, stipulate, stipules acuminate, deciduous, pinnæ in 3-5 opposite pairs, common petiole 3-5 inches long, armed with prickles like the branches, swollen at base and with an oblong gland just above the swelling, and a globose one at the base of the terminal pair of pinnæ; striate; pinnæ opposite, their petioles swollen at base, but glandless, and without prickles, finely pubescent, $1\frac{1}{2}$ to $2\frac{1}{4}$ inches long. Leaflets in 6 to 12 opposite pairs, with a pair of minute bract-like ones above base of petiole; obliquely oblong, mucronate at apex, unequal sided at base, quite entire, $2\frac{1}{2}$ to 8 lines long, 1 to 4 lines wide, bright green, glabrous, finely pubescent. Inflorescence in axillary and terminal racemose panicles. Peduncles slender, with many scattered prickles, especially on lower portion; secondary peduncles minutely pubescent. Heads globose, about 20 flowered; spreading to $\frac{1}{2}$ to $\frac{3}{4}$ inch diameter. Calyx gamosepalous, 5-fid, subsessile, cylindrical with rounded base, pubescent, 1 line long. Corolla 5-lobed, lobes acuminate, a little longer than calyx. Stamens numerous, filaments more than twice the length of calyx and corolla. Anthers minute, 2-celled, cells globose, pollen aggregate in subglobose masses, 2-4 in each cell. Legume flat, compressed, margined, membranous, glabrous, several seeded, stipitate.

Habitat: NATAL: Coast districts. Verulam 3-500 feet alt., February, *Wood* No. 461; near Durban, 150 feet alt., April, *Wood* No. 6413; Berea, January, 150 feet alt., *Wood* No. 8021.

Drawn and described from *Wood's* No. 8021.

The genus *Acacia* is a large one including more than 400 species, which are widely distributed in the warmer parts of the world, in Australia very plentiful. In South Africa we have about 15 species, while in Tropical Africa nearly 40 are found. The presence of a stalked gland on the anthers is unusual in the genus, but common in many of the genera of the Sub-Order Mimosæ to which *Acacia* belongs. The native name is u-Bobo.

Fig. 1, calyx opened; 2, corolla opened; 3, stamen with gland; 4, ovary, style and stigma; 5, legume, natural size; except Fig. 5, *all enlarged*.



Acacia Kraussiana, Meisn.



Turraea heterophylla, Sm

PLATE 246.

TURRÆA HETEROPHYLLA, Sm. (Fl. Cap. Vol. 1, p. 245).
Natural Order, MELIACEÆ.

A shrub or small tree with dark reddish-brown bark, twigs pubescent. Leaves simple, alternate, petiolate, exstipulate, deciduous, ovate, acute, acuminate, or occasionally trilobed at apex, rounded or acute at base, margin entire; pubescent, veins and veinlets prominent beneath; mature leaves 4 to $5\frac{1}{2}$ inches long, 2 to $2\frac{3}{4}$ inches wide; petiole 4 to 6 lines long, densely pubescent. Flowers solitary, crowded near the ends of short branchlets, bracteolate at base. Peduncles 4 to 6 lines long, pubescent. Calyx cup-shaped, 5-toothed, pubescent, teeth small, erect, acute. Petals 5, free, linear-spathulate, 18 to 22 lines long, yellow-green, recurved, glabrous. Stamens 10, monadelphous, the staminal tube slender, white, widening near apex, and then divided into 20 linear, recurved teeth; anthers linear-oblong, apiculate, 2-celled, seated on summit of staminal tube at base of the teeth. Ovary 10-celled, cells, 2-ovuled; style longer than the staminal tube, stigma depressed-globose, umbonate. Capsule subglobose, 10-furrowed, 10-lobed, 5 to 9 lines diameter. Seeds subreniform, curved, orange, hilum broadly winged, wing whitish, reflexed, appearing arillate, 3-lines long.

Habitat: NATAL: From coast 2-3,000 above sea level, Umzingyati, 1-2,000 feet alt., November, *Wood* No. 768; Berea, 150 feet alt., November, *Wood* No. 8023.

A deciduous shrub or small tree, it is known to the natives as um-Lulana, or Mandhlozaan. The genus contains 16 species natives of Tropical Asia, Australia, Tropical and South Africa. In Natal we have two species only, the one here described, and *T. obtusifolia*, Hochst, a shrub which is sometimes used to form an ornamental fence, and which will be figured and described in a future part of this work.

Fig. 1, upper portion of staminal tube opened, with anthers in position; 2, portion of style and stigma; 3, cross section of ovary; *all enlarged*.

PLATE 247.

STRYCHNOS HENNINGSII, Gilg. (Engl. Jahr. Vol. xvii., p. 569).
Natural Order, LOGANIACEÆ.

A tree reaching 30 to 40 feet in height. Twigs divaricately branching, slightly swollen at nodes, bark light coloured in basal portion, green above. Leaves opposite, petiolate, exstipulate, coriaceous, broadly ovate, rounded and tapering more or less abruptly to base, and more gradually to an obtuse or sub-acute apex, margins entire; dark green and glossy above, duller and lighter coloured beneath; 3 to 5 veined at base, vein prominent beneath, only the main ones conspicuous above; $1\frac{1}{2}$ to $3\frac{1}{2}$ inches long, 1 to $2\frac{1}{2}$ inches wide, usually gradually diminishing in size downwards on the twig, which terminates with a pair of leaves; petioles 2 to 3 lines long. Inflorescence cymose, axillary, cymes few flowered, up to one third as long as the leaves, the branches of the cyme decussate, 3 to 5 flowered; peduncles 3 to 6 lines long; pedicels 2 to 3 lines long. Calyx gamosepalous, 5-lobed, open, green, finely pubescent. Bracts minute, oblong. Corolla gamopetalous, 5 to 6 lobed, tube very short, lobes oblong, acute, 3-ribbed, recurved, fleshy, at first white, afterwards orange, spreading to 3 lines wide. Stamens 5, inserted at apex of corolla tube, alternate with and half as long as the lobes; filaments thick; anthers oblong, 2-celled, dorsifixed, minutely apiculate. Ovary superior, 2-celled, cells 1-ovuled, globose, glabrous. Style short, stigma capitate, bristly. Fruit a globose berry, $\frac{1}{2}$ inch diameter, orange red when ripe, usually, perhaps always 1-seeded by abortion. Seed globose, 3-lines diameter.

Habitat: NATAL: Coast districts. Berea, 150 feet alt., December, *Wood* No. 6672; 7978.

A handsome tree found sparingly in coast forests from Tugela to Umzimkulu, and also found by Mr. T. R. Sim of the Cape Forest Department, in Pondoland, where it is known to the natives at Umnonono. The wood is said by Mr. Sim to be used for spokes of wheels. In Natal it is called by the natives um-Caloti and the bark is used medicinally. We have seen one tree only, and though a good lookout was kept only one ripe fruit was found. The tree bore flowers in abundance, but perhaps on account of the very dry season nearly all the fruits fell off when about the size of peas, so that the solitary one seen, may perhaps have been smaller than usual, though it appeared to be quite perfect; it has been preserved in the Herbarium.

Fig. 1, corolla opened; 2, calyx, ovary, style and stigma; 3, section of ovary; *all enlarged*.



Strychnos Henningssii, Gilg



Gnidia ovalifolia, Meisn.

PLATE 248.

GNIDIA OVALIFOLIA, Meisn. (in Linnæa, XIV. (1840) 455).
Natural Order, THYMELEACEÆ.

A diffuse undershrub 4 to 10 feet in height. Bark dark brown. Branches long and slender, densely pilose, especially the younger parts. Leaves opposite, petiolate, exstipulate, ovate to ovate-oblong, acute at apex, tapering to base, margins quite entire; pubescent on upper surface, much more densely so beneath; 1 to $2\frac{1}{2}$ inches long, $\frac{1}{2}$ to $1\frac{1}{4}$ inch wide; petioles 1 to 3 lines long. Inflorescence in short few flowered terminal racemes. Flowers yellow. Perianth tube cylindrical, jointed above the ovary, the upper portion at length falling away; 6 to 8 lines long; lobes 4, erect or patent, ovate, obtuse, minutely pilose externally, $1\frac{1}{2}$ line long. Glands or scales 8, in pairs on throat of tube at sinuses, connate with each other at base, alternate with perianth lobes. Stamens 8, in two rows, included, one row just below throat the other a little lower down the tube; filaments very short, anthers oblong, 2-celled. Ovary free, pilose with very long, erect white hairs; 1-celled, 1-ovuled. Style slender, terete; stigma laterally compressed. Nut dry, enclosed in the persistent base of the perianth tube.

Habitat: NATAL: Coast and midlands, usually at edges of woods. Inanda, 1,800 feet alt., December, *Wood* No. 332; near Durban, 150 feet alt., January, *Wood* No. 8024.

Drawn and described from the Durban specimens.

The genus *Gnidia* is exclusively an African one, two or three species according to the *Genera Plantarum* are found in Tropical, and nearly or quite 40 in South Africa, and by far the larger number of these are found in Transvaal, Cape and Orange River Colonies, not more than three or four having as yet been identified in Natal. We are not able to learn the native name for the above described species, nor do they appear to use it in any way. The generic name is said to be an ancient name for the Laurel.

Fig. 1, flower; 2, perianth opened; 3, ovary, style and stigma; *all enlarged*.

PLATE 249.

TEPHROSIA KRAUSSIANA, Meisn. (Fl. Cap. Vol. ii., p. 206).
Natural Order, LEGUMINOSÆ.

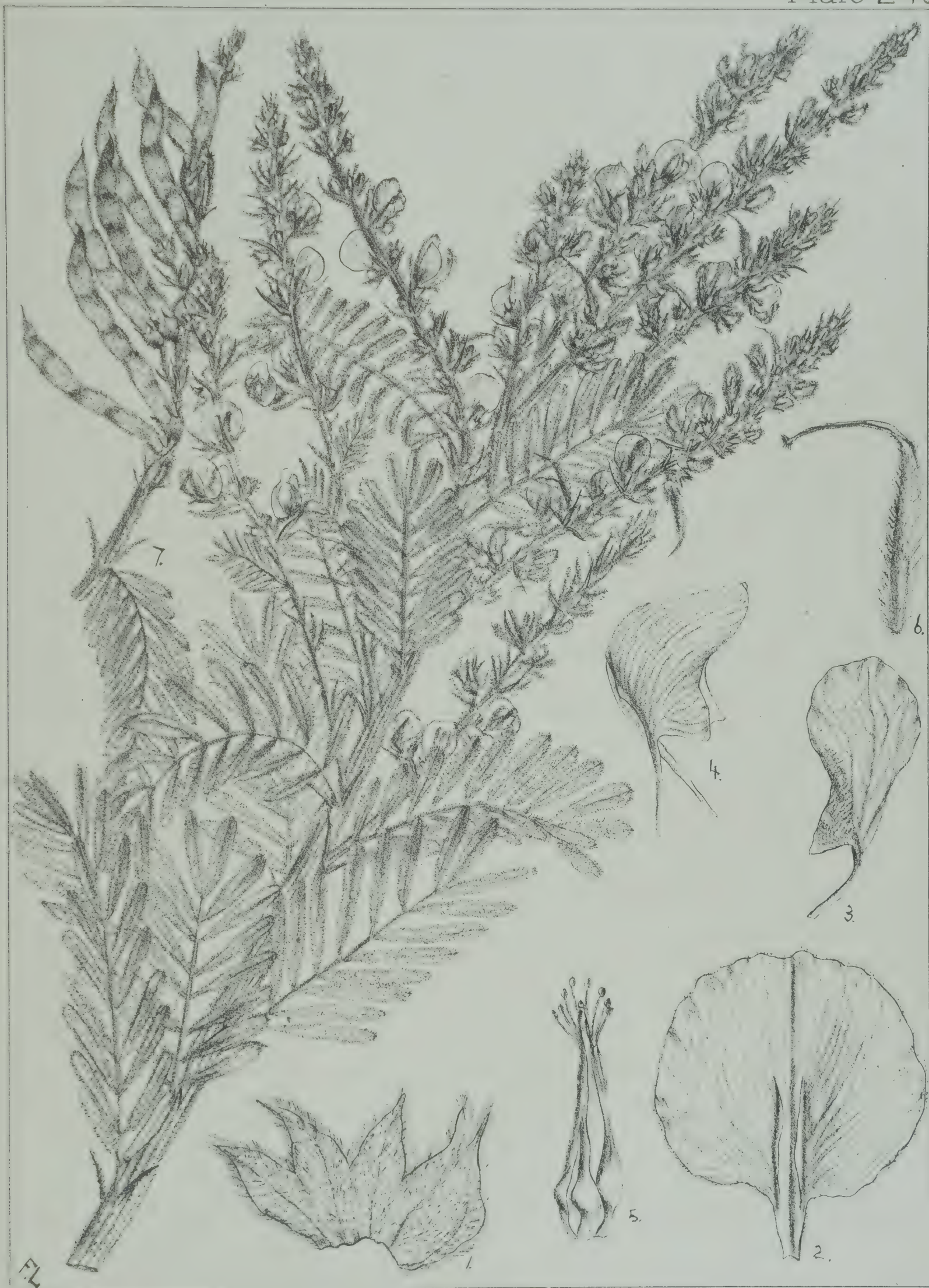
A small, erect, densely leafy undershrub 2 to 5 feet high. Stems and branches rib-furrowed, densely covered with whitish erect or spreading pilose hairs. Leaves alternate, pinnate, shortly petiolate, 7-10-jugate with a terminal leaflet, the rhachis to base of terminal leaflet 1 to 2 inches long; stipules setaceo-subulate, longer than the petiole. Leaflets opposite, springing from the upper surface of the rhachis, narrow linear, linear cuneate, or linear oblong, margins entire, apex obtuse, emarginate or mucronulate, canescent with whitish appressed pubescence beneath, more sparingly so above, $\frac{3}{4}$ to 1 inch long, 1 to $1\frac{1}{2}$ line wide (in dried specimens the white pubescence is more conspicuous, and the upper surface of the leaflets is dark brown); petiolules 1-line long, densely pilose. Inflorescence in axillary and terminal racemes, the terminal ones crowded, forming a false panicle. Flowers pink. Peduncles 2 to 6 inches long, somewhat laxly flowered. Bracts subulate, 2 to 3 lines long, pilose. Calyx gamosepalous, tube campanulate, limb 5-lobed, the two upper lobes connate for about two thirds of their length, the lowest slightly longer than the others; densely pilose externally. Corolla papilionaceous, petals clawed, vexillum suborbicular, ample, erect, villous externally; alæ oblong, oblique, glabrous; carina incurved, obtuse, glabrous. Stamens 10, vexillary filament free at the base, connate with the others upwards; anthers small, similar, oblong. Ovary hirsute. Style curved, subglabrous, stigma minute, with one or two long hairs. Legume linear, compressed, canescent, apiculate, $1\frac{1}{4}$ to $1\frac{1}{2}$ inch long, $1\frac{1}{2}$ to 2 lines wide, 4 to 6 seeded.

Habitat: NATAL: In coast and midlands. Inanda, 1,800 feet alt., *Wood* No. 807; near Sydenham, 3-500 feet alt., January, *Wood* No. 7403.

Drawn and described from the Sydenham specimens.

This genus is widely distributed in warm regions, and contains more than 90 species, of which about 25 are found in South Africa, 15 at least of these having been identified in Natal, some are undershrubs reaching to 5 to 6 feet in height, while others are prostrate or creeping, one or two of the taller species are well worth cultivation. The native name for the above described plant is isi-Punga, and they are said to use it medicinally.

Fig. 1, calyx opened; 2, vexillum; 3, ala; 4, carina; 5, stamens; 6, ovary, style and stigma; 7, legumes, *natural size*; except Fig. 7, *all enlarged*.



Tephrosia Kraussiana, Meisn.



Wedelia natalensis, Sond

PLATE 250.

WEDELIA NATALENSIS, Sond. (Fl. Cap. Vol. iii., p. 132).
Natural Order, COMPOSITÆ.

An herbaceous plant with many long, straggling, decumbent, naked stems, usually forming a dense clump. Stems subangular, scabrid. Leaves opposite, petiolate, very variable in form, rotund, ovate-acuminate, or lanceolate, margins revolute, distantly and sharply serrate, scabrid on both surfaces with white, curved hairs from a broad cellular base; 3-veined; 1 to 3 inches long, 5 to 12 lines broad; petiole 1-line long, flattened, the opposite pairs connected by a distinct ring. Inflorescence terminal or sometimes axillary, flowers yellow. Heads solitary, heterogamous. Involucral scales in two rows, outer 5, leaflike, ovate-oblong, ciliate, puberulous, 6-lines long; 2 to 3 lines wide; inner membranous, oblong, ciliate in upper portion, $3\frac{1}{2}$ lines long, 2 lines wide; innermost hyaline, lanceolate, ciliate and silky in upper portion. Pappus concrete in a toothed and ciliate cup. Ray florets, 10 to 12, ligulate, in one row, female, tube very short, limb oblong, minutely 2-fid at apex, with two prominent ribs, one ending in each tooth, minutely glandular ciliate, several veined. Disk florets, hermaphrodite, tubular, 5-toothed, the teeth minutely but densely glandular internally. Stamens 10, anthers membrane-tipped, subsagittate at base. Styles bifid, lobes linear, glandulose. Receptacle convex, palæ linear-oblong, hyaline, concave, sharply toothed in upper portion, and with a dark brown midvein. Achenes silky, crowned by the hardened cup-like pappus.

Habitat: NATAL: Inanda, 1,800 feet alt., *Wood*; near Durban, 500 feet alt., March, *Wood*.

Not an uncommon plant in the coast districts, and reaching to at least 2,000 feet above sea level. We cannot learn that the natives have any specific name for this plant, nor do they put it to any use.

Fig. 1, outer involucral scale; 2, inner involucral scale; 3, innermost involucral scale; 4, ray floret; 5, disk floret; 6, anthers; 7, achene and pappus; 8, palæ; *all enlarged*.

NATAL PLANTS.

Vol. 3.—PART III.

—BY—

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CURATOR OF NATAL BOTANIC GARDENS. DURBAN.

—AND OF—

NATAL GOVERNMENT HERBARIUM.

Title Page, Preface and Index, will be Published with the concluding
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Pentanisia variabilis, Harv

PLATE 251.

PENTANISIA VARIABILIS, Harv. var *latifolia* (Fl. Cap. Vol. 3, p. 24).
Natural Order, RUBIACEÆ.

A perennial plant having several or many stems, rising from a thick tuberous root, the root straight, bent, forked or branched, $\frac{1}{2}$ –1 inch in diameter. Stems erect or declined, simple, or branched, 6 to 18 inches long, terete, subquadrangular or compressed, reddish-brown at base, green upwards, densely pilose with long white hairs. Leaves opposite, petiolate, stipulate, varying in shape from oblong to linear-oblong, acute at apex, rounded at base, margins entire, ciliate, veins prominent beneath, visible above; densely hirsute with long white hairs; 1 to 2 inches long, 3 to 10 lines wide; petiole very short, $\frac{1}{2}$ to $1\frac{1}{2}$ line long. Stipules broad-based, the rounded base occupying the whole space between the opposite petioles and connected with them, then cut above into from 3 to 6 bristle-like teeth which are often of unequal size; 2 to 3 lines long. Inflorescence of terminal, long peduncled, many flowered, head-like, much abbreviated spikes. Flowers blue to lilac. Calyx gamosepalous, tube very short, limb, 5-lobed, 1 to 3 of the lobes elongated, linear-subulate, the remainder minute; the longer one 3 to $3\frac{1}{2}$ lines long. Corolla gamopetalous, salver-shaped, tube slender, puberulous externally, internally pilose; 6 to 7 lines long, limb 5-lobed, lobes oblong, apiculate, 2-lines long. Stamens 5, inserted a little below throat. Ovary 2-celled, cells 1-ovuled. Style 1, filiform, stigma bifid, lobes linear. Fruit a didynamous, subglobose capsule, covered with numerous white bristles; $1\frac{1}{2}$ -lines long and wide, 2-seeded.

Habitat: NATAL: All over the Colony.

Drawn and described from specimens gathered near Durban, March, 1901.

This genus is exclusively an African one, and contains three species only, two of which are from Tropical Africa, and the present species, which extends all over Natal, has also been found in Kaffraria, and most likely exists in other parts of South Africa. There are at least three well marked varieties, viz., *latifolia*, which is the one here described, *intermedia*, and *glaucescens*. The whole of the species are dimorphic, and both forms are equally common, the plate well showing the difference between the two forms.

The plant is known to the natives as "Icitshumlilo" and they use it medicinally. The meaning of the native name is "put out the fire" so it is quite probable that they use it in cases of inflammation.

Fig. 1, flower, short, styled form; 2, same, much more enlarged, corolla opened and part of its upper portion removed; 3, flower, long styled form; 4, same, much more enlarged and with corolla opened and upper portion removed; 5, fruit; 6, cross section of same; *all enlarged*.

PLATE 252.

TRIUMFETTA EFFUSA, E. Meyer (Fl. Cap. Vol. 1, p. 228).
Natural Order, TILIACEÆ.

A herbaceous plant 2 to 4 feet high, much branched, stem and branches terete, hispid with stellate hairs. Leaves alternate, petiolate, stipulate, central ones largest, 2 to 6 inches long and wide, irregularly and finely crenate, serrate or crenato-serrate, more or less deeply trilobate in upper portion, the central lobe much the longest, occasionally the lobes are obscure; upper and lowest smaller, varying from trilobate to tricuspidate, sometimes with long narrow cusps, to ovate lanceolate or lanceolate, rounded and 3 to 5 veined at base, pubescent with stellate and simple hairs beneath, more finely so above; veins prominent beneath, visible above; petioles from 1 to 4 inches long, thickened at apex, hispid. Stipules small, lanceolate, deciduous. Inflorescence in upper portion of the plant, on short or elongated branches, the flowers solitary or clustered at the nodes. Peduncles 1-3 flowered, very short, bracteate above the middle, recurved in fruit. Sepals 5, linear, hooded and spurred externally at apex, strongly recurved, yellow, $2\frac{1}{2}$ lines long. Petals 5, alternate with sepals, broadly spathulate, yellow, inserted at base of a short columnar torus, which bears the stamens and ovary, 2 to $2\frac{1}{2}$ lines long, 1 line broad. Torus very short, furnished with 5 glands on outer surface, and expanded at apex into a ciliate membranous cup. Stamens 15, on torus, filaments equalling petals. Anthers oblong, 2 celled. Ovary globose, pilose, 3 to 5 celled, cells 1-2 ovuled. Style filiform, stigma minutely 2-dentate. Capsule subglobose, tomentose, covered with hooked bristles, indehiscent (?) about the size of a pea.

Habitat: NATAL: Coast districts. Near Durban, April, *Wood*. Nonoti, 500 feet alt., April, *Wood*.

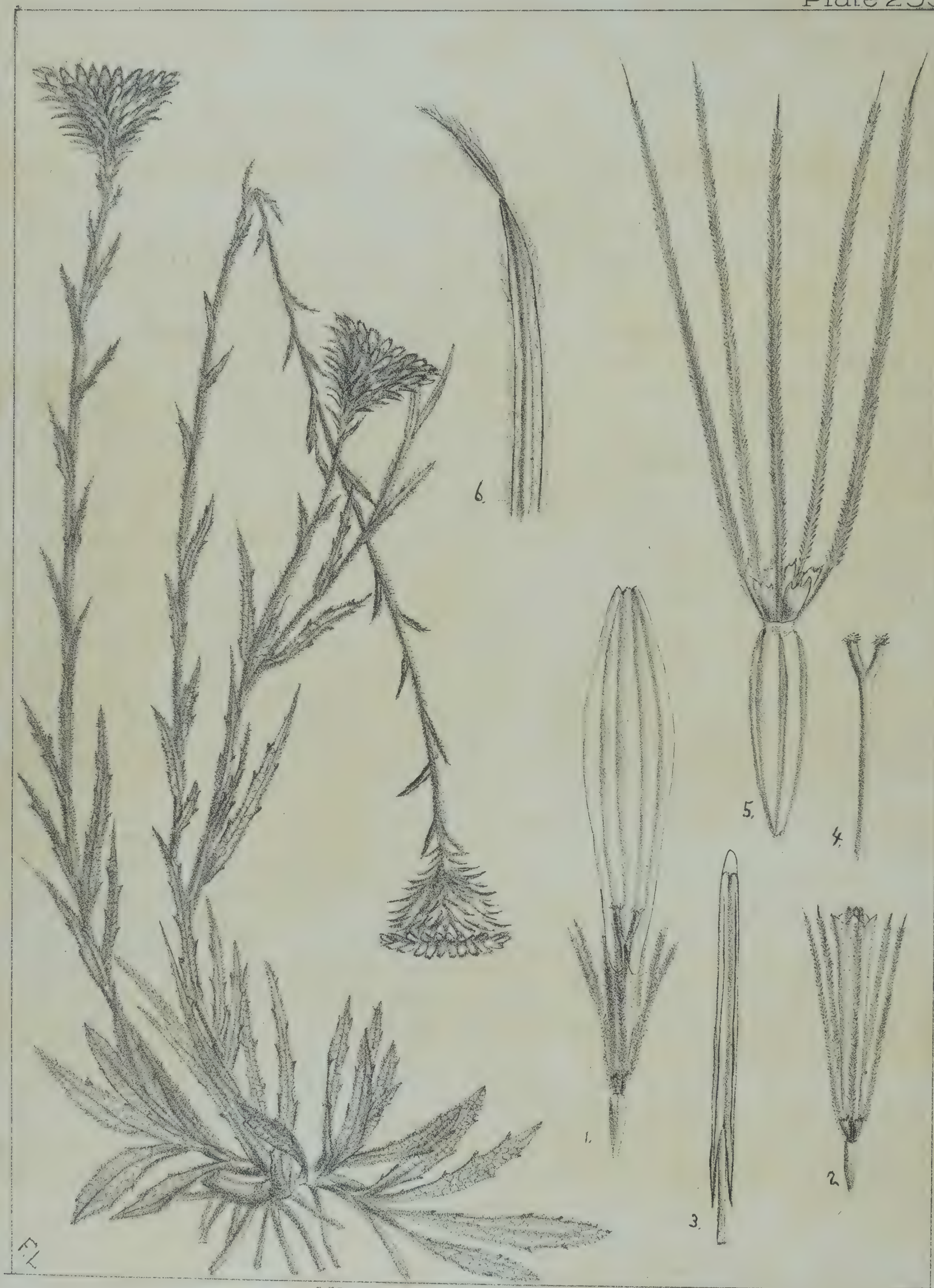
Drawn from specimens gathered near Durban, April, 1901.

This genus contains about 40 species found in tropical and subtropical countries, many are weeds of cultivated ground, and the seedvessels or "Burs" of some of the species would no doubt be troublesome in wool producing districts, none are of any economic value, though the bark contains a fairly strong fibre. The leaves vary much in size and cutting even upon the same plant, and are sometimes furnished with glands. The enlarged drawing of the flower is shown as it appears when first opens, afterwards the sepals and petals are reflexed, the sepals strongly so. The genus is named in honour of J. B. Triumphetti, an Italian botanist of the 17th century.

Fig. 1, flower opening; 2, flower with sepals and petals removed; 3 fruit; *all enlarged*.



Triumfetta effusa, E. Meyer



Alhrixia fonlana. Mac Owan.

PLATE 253.

ATHRIXIA FONTANA, Macowan. (Jour. Linn. Soc. XVIII (1881) 391).
Natural Order, COMPOSITÆ.

A slender, erect, herbaceous plant with white flowers. Stem slender, simple or branched, leafy in lower portion, naked upwards, terete or striate, cobwebby in upper portion, 6 to 14 inches high, 1-headed. Leaves alternate, sessile, lowest ones linear-lanceolate, becoming gradually smaller and more distant upwards, uppermost bristle-like, margins of lower ones sharply and distantly toothed, recurved; of upper ones entire; apex acute; densely white tomentose beneath, cobwebby and finely hispid above, 3 lines to 3 inches long, the midvein prominent beneath, and subglabrous. Heads many flowered, radiate, heterogamous, terminal on stems and branches. Involucre turbinate, cobwebby, the bracts in many rows, subulate, squarrose, with dark brown midrib. Ray florets in a single row, female, their corollas ligulate, 4-veined, 3-toothed at apex; disk florets perfect, tubular, 5-toothed. Receptacle conical, pitted. Anthers tailed at base. Style arms truncate, finely bristly. Achenes 2-3 ribbed. Pappus of 5 long, finely, serrate bristles, alternating with five short irregularly toothed scales.

Habitat: NATAL: Upper districts, Lion's River district, 3-4,000 feet alt. *J. Wylie*, (Wood No. 6712). Sevenfontein 3-4,000 feet alt., March, *J. Wylie*. (Wood No. 8148).

Drawn and described from Wood's No. 8148.

The genus *Athrixia* contains 15 to 20 or more species inhabiting tropical South Africa, Madagascar, and Australia. In Natal we have seven species, the leaves of one of which (*A. phyllicoides*, D.C.) were used as tea in the early days of the Colony; none of the species have any known economic value. The above described plant is usually found in moist places in the upper districts, sometimes under light shade, at sources of rivulets or in crevices of damp rocks, sometimes fully exposed to the sun's rays for at least a portion of the day. It is not a very common plant.

Fig. 1, ray floret; 2, disk floret; 3, anther; 4, style and stigma; 5, achene with pappus; 6, involucral scale; *all enlarged*.

PLATE 254.

DICLIPTERA HETEROSTEGIA, Nees. (Presl., Bot. Bemerk, 95; Nees in D.C.,
Prod. XI., 478).

Natural Order, ACANTHACEÆ.

A herbaceous plant with white or pale lilac flowers. Stems 18 inches to 2 feet long, but sometimes by the aid of adjacent plants reaching to four feet or more in length, branching, and both stems and branches angularly furrowed, and pilose with whitish hairs on the angles, swollen above the nodes. Leaves opposite, petiolate, ovate, entire, tapering gradually to the petiole, and to an obtuse apex, veins conspicuous on both surfaces; $1\frac{1}{2}$ to 4 inches long, 1 to $2\frac{1}{2}$ inches wide; petioles flattened above, rounded beneath, pilose, reaching to two inches long. Inflorescence axillary, cymose, bracteate, the bracts opening away from the axis. Flowers pale lilac. Bracts 2, opposite, unequal in size, enclosing 1 to 3 flowers, one or two of which are often abortive; the back one largest, ovate acuminate, entire, 7-veined from base, green, pilose on both surfaces, ciliate; 4 to 8 lines long, front one obtuse, 4-lines long, bracteoles two to each flower, subulate, shorter than bracts, a little longer than the calyx segments, pubescent. Calyx 5-parted nearly to base, lobes linear-setaceous, 2-lines long. Corolla 2-lipped, the apparent upper lip 3-toothed, suberect, lower emarginate or entire, recurved, tube compressed, twisted, a little inflated at throat; 6 to 9 lines long. Stamens 2, inserted on corolla at throat, filaments equalling corolla lobes in length; anther cells superposed, pointless, lilac. Ovary superior, 2-celled, seated on a cupular disk, cells 2-ovuled; style filiform, pilose, equalling stamens, 2-lobed. Capsule suborbicular, laterally compressed; on a thick solid stalk, finely pilose especially round the margin; with a thickened green projection at apex. Seeds disciform, muricate.

Habitat: NATAL: Coast districts; Clairmont; 50 feet alt, *Wood* No. 1309; near Durban, 150 feet alt, May, *Wood* No. 4880.

Drawn and described from specimens gathered near Durban, June, 1901.

The genus *Dicliptera* includes 50 or more species widely spread in warm regions of the world. In South Africa we have three or four species, two at least of which are found in Natal. The species here described is usually found at edges of bush, its stem are often elongated and supported by the adjoining plants. It has no known economic value, nor can I learn that the natives have any distinctive name for it.

Fig. 1, flower and bract; 2, corolla opened showing attachment of stamens; 3, ovary, style and stigma; 4, capsule; 5, valve of same showing attachment of ovules; *all enlarged*.



Dicliptera heterostegia, Nees.



Phaylopsis parviflora, Willd.

PLATE 255.

PHAYLOPSIS PARVIFLORA, Willd. (Fl. Cap. Vol. V. p. 20).
Natural Order, ACANTHACEÆ.

A herbaceous plant with white flowers. Stems branching, elongate, sometimes reaching 4 to 5 feet in length and often rooting at the nodes in lower portion; terete or subquadrangular, hispid, swollen above the nodes. Leaves opposite, petiolate, ovato-oblong, entire, acuminate to an obtuse apex, tapering and unequal sided at base, pubescent on both surfaces, the hairs on the upper surface springing from a cellular swollen base, veins conspicuous on both sides; $2\frac{1}{2}$ to $4\frac{1}{2}$ inches long, 1 to $2\frac{1}{2}$ inches wide. Petiole flattened above, pubescent, 1 to $2\frac{1}{2}$ inches long. Inflorescence in axillary and terminal one sided bracteate spikes which are subtended by a number of bract-like depauperated leaves of varying size, the flowers being turned away from the axis. Bracts orbicular-cordate, veiny, pubescent with glandular hairs, ciliate, stalked, each bract enclosing several flowers, bracteoles none. Calyx 5-parted to base, the upper lobe large, bract-like, veiny, dull red at base, the others linear-lanceolate; all glandular, pilose and ciliate. Corolla gamopetalous, 2-lipped, upper lip 2-fid, lower 3-fid, lobes obtuse, tube subcompressed, curved, a little widening to throat; 6 lines long. Stamens 4, sub-didynamous, inserted on corolla tube near base, included; anthers oblong, 2-celled, cells parallel. Ovary seated on a flesh disk, with glandular hairs at apex; style minutely hairy, 2-lobed, one lobe much longer than the other. Capsule obovate, tapering to base and crowned with remains of the style, glandular hairy near apex, otherwise glabrous; 2-celled, 4-seeded, the lower seed in each cell abortive. Seeds compressed, silky.

Habitat: NATAL: Coast districts, and reaching to at least 2,000 feet above sea level, usually at edges of woods. Inanda, 1,800 feet alt, July, *Wood* No. 152; near Durban, 150 feet alt, June, *Wood* No. 4878.

Drawn and described from specimens gathered near Durban, June, 1901.

This genus according to the Index Kewensis includes six species, four of which are found in Tropical Africa, and two in Madagascar only; of the four Tropical African species, one is found also in India, and the species above described in addition to Natal is found in Arabia.

Fig. 1, flower, front view; 2, same, back view; 3, calyx; 4, corolla, showing attachment of stamens; 5, ovary style and stigma; 6, capsule; 7, valve of capsule showing attachment of ovule; *all enlarged*.

PLATE 256.

LASIOSIPHON KRAUSSII, Meisn. (D.C., Prod. XIV, 598).
Natural Order, THYMELEÆ.

A herbaceous perennial with yellow flowers. Root thick, woody. Stems many from the root, annual, terete, thinly pilose with long white hairs at the base, and still more so towards apex, densely so beneath the inflorescence, yellow-green. Leaves alternate, petiolate, exstipulate, oblong, entire, acute at apex, rounded to base, glabrous, $\frac{3}{4}$ to 2 inches long; $\frac{1}{4}$ to 1 inch wide, subglaucous. Inflorescence in terminal bracteate heads. Flowers yellow. Involucral bracts 8 to 12, lanceolate, entire, villous, ciliate, $\frac{3}{4}$ inch long, 2 lines wide, enclosing 40 to 80 flowers. Receptacle pitted, the pits margined with long white hairs. Perianth tubular, jointed above the ovary, and a little inflated towards apex, pilose; limb 5-parted, lobes oblong, 2 lines long, spreading, glabrous on upper surface, pilose beneath, ciliate. Scales 5, alternate with lobes, ovate, obtuse or minutely toothed at apex, 1 line long. Stamens 10, in two rows, included, the upper row subexserted, the lower row one-third down the tube; anthers sessile, linear-oblong, 2-celled. Ovary free, enclosed in the persistent base of the perianth tube, which is densely pilose with long white silky hairs; 1-celled, 1-ovuled; style filiform, stigma capitate, hairy, reaching about half way up the perianth tube. Seed small, dry, enclosed in base of the perianth tube.

Habitat: NATAL: Coast and midlands, probably reaching to the upper districts also. Inanda, 1,800 feet alt, September, *Wood* No. 188; Umlaas, ca 1,000 feet alt, July, *Wood*; Palmiet, 500 feet alt, June, *Wood* No. 8285.

This genus contains about 25 or more species, natives of Tropical and South Africa, Madagascar, and Tropical Asia. In South Africa we have some 13 species, 8 of which are found in Natal. The genus is distinguished from *Gnidia* chiefly by the fact that the flowers are 5-merous, and have 10 stamens, while in *Gnidia* the flowers are 4-merous and the stamens 8. The above described species is common on grassy hills in the lower districts, and midlands of the Colony, and its yellow flowers are very conspicuous. Our plant is said to be the variety *angustifolius*, but I have no recollection of seeing a broad leaved form in Natal.

Some species of *Lasiosiphon* and I think of *Gnidia* also are used by the natives as a remedy in snake-bite; they have also mild blistering properties, and have been used in sore throat.

Fig. 1, flower; 2, perianth opened; 3, ovary, style and stigma; 4, portion of the receptacle and involucral scales; *all enlarged*.



Laiosiphon Kraussii, Meisn.



Ocimum obovatum, E. Mey

PLATE 257.

OCIMUM OBOVATUM, E. Meyer (Comm. Pl. Afr. Austr. 226).
Natural Order, LABIATÆ.

A herbaceous perennial with many stems from a thick woody root. Stems erect, occasionally and sparingly branched in upper portion, terete or subquad-rangular, pubescent, 2 to 10 inches high. Leaves opposite, petiolate, lanceolate, obtuse at apex, tapering at base to a short petiole, margins distantly and bluntly serrate, both surfaces thickly dotted with minute green glands, which become brown at the extreme margin; the lamina 1 to 2 inches long, $\frac{1}{2}$ to $\frac{3}{4}$ inch wide, pubescent beneath; petiole 1 to 2 lines long. Inflorescence of 6-flowered whorls, forming a short lax raceme. Flowers lavender, the veins of upper lobe of corolla much darker, lower lobe very faintly coloured, not lined. Calyx gamosepalous, pubescent, 2-lipped, upper lip ovate, concave, decurrent on the tube, entire, mucronulate; lower lip a little shorter, subconduplicate, 2-fid at apex, the teeth linear, dark coloured, a minute tooth outside of each; margins ciliate with white hairs; 3 lines long, 2 lines wide; pedicels 1 line long. Corolla gamopetalous, much longer than calyx, 2-lobed, lower lobe oblong, concave, declined; upper erect, 4-lobed, outermost in bud, the two central lobes longer than the others, connate for half their length, irregularly toothed at apex, two lateral ones spreading or reflexed, irregularly toothed in upper portion; tube short, a little inflated at throat; the whole corolla 6 to 7 lines long. Stamens 4, declinate, inserted on corolla at throat, much exserted, the two upper (posterior) ones thickly pilose with white jointed hairs in lower portion, and knee-bent below; the two lower (anterior) glabrous, decurrent on the corolla tube; anthers small, 2-celled, versatile, brown. Style longer than stamens, 2-fid at apex. Nuts 4, one or two often abortive, seated on a cup-like lobed disk.

Habitat: NATAL: Coast and midlands. Inanda, 1,800 feet alt, *Wood*; Umhlanga, 1,000 feet alt, August, *Wood* No. 1340; Umzinyati, 800 feet alt, October, *Wood* No. 1397; near Durban, 500 feet alt, June, *Wood* No. 8286.

This genus includes about 40 species, natives of the warmer regions of the world; 13 or more are found in Tropical, and six in South Africa, of which four have been collected in Natal. Several species are used in condiments and in perfumery, and one or more are used medicinally.

Fig. 1, flower; 2, calyx opened, outer surface; 3, same, inner surface; 4, corolla opened; 5, ovary, style and stigma; *all enlarged*.

PLATE 258.

ALOE NATALENSIS, Wood & Evans (Report Natal Botanic Gardens (1900), p. 9 ;
 Jour. Bot. (1901), p. 170).
 Natural Order, LILIACEÆ.

A shrubby plant, 12 to 15 feet high with a diameter of 12 to 15 feet, copiously and repeatedly branching from the very base, each branchlet ending in a dense rosette of leaves; occasionally producing adventitious roots from the lower branches. Leaves linear-lanceolate, falcate, acute, subglaucous, neither spotted nor lined, margined with deltoid, curved prickles; very succulent and brittle, 18 to 30 inches long, $1\frac{1}{2}$ to $2\frac{1}{2}$ inches wide, $\frac{1}{2}$ to $\frac{5}{8}$ inch thick at base; prickles 1 line long, $\frac{1}{4}$ to $\frac{3}{4}$ inch apart. Peduncles simple, 18 to 24 inches long; bracts broadly obovate, $\frac{1}{4}$ inch long and wide, veined. Racemes densely many flowered at apex, 5 to 10 inches long, spreading to 3 inches wide. Pedicels erecto-patent, 1 to $1\frac{1}{2}$ inch long. Perianth red, tipped with dull green, cylindrical or obscurely 3-lobed, $1\frac{1}{2}$ to $1\frac{3}{4}$ inch long, the three outer segments coloured, three inner ones white, with orange central band, and green tip. Stamens 6, hypogynous, finally slightly exserted, equal; filaments flattened, yellow-green; anthers linear-oblong, 2-celled, basifixed, erect. Ovary subcylindrical, 6-lined, sessile, 3-celled, many ovuled; style slender, a little longer than stamens, truncate. Capsule oblong, sub-trigonus, 3-celled, loculicidally 3-valved, many seeded.

Habitat: NATAL: Midlands, 800 to 3,000 feet alt, usually in rocky situations; Inanda and Noodsberg, Wood, cultivated in Natal Botanic Gardens, Wood No. 4342.

A large genus including more than 100 species, the greater part of which are African. The Flora Capensis, Vol. VI. enumerates 70 species as South African, and there are also ten or more in Tropical Africa, the remainder being found in Madagascar, Socotra, India, China, and Mediterranean region. It is from several species of this genus that the drug known as Aloes is obtained, the greater part, if not all that has been sent from Natal having been obtained from *Aloe ferox*, but a small quantity of excellent quality was sent from Natal some years ago the origin of which is at present unknown, nor is it quite certain that the plant which yielded it is a native of Natal; it has been surmised that it may possibly have been brought from Zululand, but the matter is still in doubt. The species above described is by far the handsomest of the Natal species, and differs in habit from any other species known to us or described in the Flora Capensis, and it certainly does not contain the drug in any appreciable quantity.

Fig. 1, flower with three perianth segments and one stamen removed; enlarged.



Aloe natalensis, Wood & Evans



Myrsine melanophleos, R. Br

PLATE 259.

MYRSINE MELANOPHLEOS, R. Br. (Prod. 533).
Natural Order, MYRSINÆ.

A tree reaching 10 to 20 feet in height. Trunk cylindrical, bark grey, thick, even; branches erect, spreading, terete, glabrous, often thickly covered with lenticels. Leaves thickly disposed near ends of branches, scattered, exstipulate, shortly petiolate, oblong, obovate, or sometimes oblanceolate, quite entire, narrowed to base, obtuse or slightly emarginate at apex, glabrous, thick and coriaceous, dark green above, lighter beneath, punctate above, minutely and thickly dotted beneath, midvein very conspicuous, secondary veins obscure. Inflorescence in few flowered fascicles, which are spread on ends of branches, and borne on thickened, woody, scaly, arrested branchlets. Fascicles 1 to 10-flowered. Pedicels thickened, $1\frac{1}{2}$ to 2 lines long. Calyx gamosepalous, 5-cleft, segments obtuse, $\frac{1}{2}$ line long. Corolla gamopetalous, 5-cleft nearly to base, lobes oblong, finely ciliate, and glandular near apex on inner surface. Stamens 5, on corolla lobes near the base, and opposite to them, subsessile, included, anthers 2-celled, oblong. Style very short, stigma capitate or conical, longitudinally ribbed, very large. Ovary 1-celled. Drupe about the size of a large pea, 1-seeded; seed with a hard pericarp.

Habitat: NATAL: Inanda, 2,000 feet alt, June, *Wood* No. 588; near Durban, 250 feet alt, June, *Wood* No. 8278; Drakensberg, *Fourcade*; *Gerrard & McKen* in Government Herbarium, without number or locality. Cape Colony, Table Mountain; Forests of Swellendam, and Eastern Province. Also found in Upper Guinea.

Mr. Fourcade says of this tree:—

“A tree 1 to 2 feet in diameter, 40 to 60 feet high, with a straight cylindrica, trunk. Bark light grey, thick, even, often studded with small lenticels. Wood moderately heavy and hard, moderately strong and elastic, rather brittle, not durable exposed to the weather; annual rings obscure, medullary rays broad, conspicuous; pores small, numerous, distributed chiefly in short radial lines; colour white, the medullary rays light red brown; used for yoke keys, various wagon work, furniture, and poles for roofing.”

We have never found it more than 20 feet in height, but in the forests of the Drakensberg it most likely attains a larger size. It is known to the natives as isi-Qulabahlati, and to the Dutch colonists as Boekenhout.

Fig. 1, flower; 2, calyx; 3, two lobes of corolla, showing insertion of stamens; 4, ovary, style and stigma; 5, fruit; *all enlarged*.

PLATE 260.

MÆRUA NERVOSA, Oliv. (Fl. Trop. Af. Vol. 1, p. 84).
Natural Order, CAPPARIDÆÆ.

A shrub with trifoliolate leaves and conspicuous flowers. Twigs terete, finely pubescent or glabrous. Leaves alternate, petiolate, exstipulate, trifoliolate; leaflets petiolulate, ovate, ovato-oblong, or oblong lanceolate, entire, retuse, mucronulate, glabrous, dark green, veins pinnate, conspicuous on both sides, prominent beneath, and in our specimens looping near margins; terminal one 1 to 3 inches long, $\frac{1}{2}$ to $1\frac{1}{2}$ inch wide, lateral similar but one-third smaller, all articulated to the petiole; petioles reaching to 1 inch long, channelled above, slightly swollen at base; petiolules 1 to 2 lines long, channelled. Inflorescence in axillary and terminal corymbose racemes, peduncles and pedicels articulated at base. Calyx gamosepalous, lobes 4, oblong, concave, acute, green, glabrous, 3-veined, erecto-patent, 5 to 6 lines long, 2 to 3 lines wide, tube cylindrical, a little shorter than the ribbed lobes. Bracts minute, deciduous. Petals 4, oblong, acute, inserted at summit of calyx tube, yellow-green, 2 to $2\frac{1}{2}$ lines long. Disk thin, lining the calyx tube, 4-toothed at apex. Stamens many, inserted on the columnar torus (gynophore); filaments filiform, white, $\frac{3}{4}$ to 1 inch long; anthers small, 2-celled, basifixed, 2-lobed at base. Gynophore at length, 1 inch or more long, cylindrical, filiform. Ovary oblong, 2-celled, cells several seeded; stigma sessile, disciform. Seeds not seen.

Habitat: NATAL: Coast districts. Near Durban, 100 feet alt, *Wood* No. 3182; near Durban, July, 150 feet alt, *Wood* No. 8277.

Drawn and described from *Wood*'s 8277.

In the *Flora Capensis* Vol. 1, p. 60, this plant is described as *Niebuhria nervosa*, Hochst, but it has since been removed to the genus *Mærua*, and in the *Flora of Tropical Africa*, Vol. 1, p. 84 it is described as *Mærua nervosa*. The genus *Mærua* includes about 15 species, 10 of which are found in Tropical Africa, and of these two are also found in Natal. One species is found in Madagascar, the remainder scattered in Africa and East Indies.

Fig. 1, flower, longitudinal section; 2, same of calyx showing lobed disk; 3, sepal; 4, stamens, back and front view; 5, portion of gynophore with ovary and stigma; *all enlarged*.



Maerua nervosa, Oliv.



Cadaba natalensis, Sond.

P.L.

PLATE 261.

CADABA NATALENSIS, Sond. (Fl. Cap. Vol. 1, p. 59.)
Natural Order, CAPPARIDÆÆ.

A divaricately branched shrub with ash-coloured bark, and long, terete, glabrous twigs. Leaves petiolate, alternate, closely placed on very short depauperated branchlets; oblong to obovate-oblong, retuse, mucronulate, entire, very minutely puberulous on upper surface above, midvein distinct, lateral ones immersed; 1 to $1\frac{1}{2}$ inches long, 4 to 6 lines wide in centre, petiole 2 to 4 lines long, pubescent on upper surface. Inflorescence solitary, the peduncles borne in axils of the leaves. Peduncles slender, recurved, 1 to $1\frac{1}{2}$ inch long. Sepals 4, unequal, in opposite pairs, the two outer (upper and lower) enclosing the others in bud, concave, acute, reddish brown; two inner ones of equal size, but flat, ovate, with numerous stalked white glands on both surfaces, veiny; all ciliate with transparent cellular hairs. Petals none. Stamens 5, on the upper portion of the stipe-like torus (gynophore) which bears the ovary, 4 being near the summit, and one lower down on the torus; filaments slender, anthers oblong, 2-celled, soon deciduous. Torus elongated, having a flask-shaped, curved nectary at its base, the neck of which is flattened, toothed, and so strongly curved that its mouth approaches closely to the swollen flask-shaped base, 4 to 5 lines long, slit on upper edge. Ovary elongate, 1-celled, ovules numerous. Fruit cylindrical, about 1 inch long.

Habitat: NATAL: Coast districts; near Verulam, 800 feet alt, July, *Wood* No. 959; near Durban, July, *Wood* No. 8281; without locality *Gerrard & McKen*, No. 629.

This genus includes about 15 species natives of Tropical and South Africa, Arabia, East Indies, and Madagascar; two are found in South Africa, but the one here described is the only one inhabiting Natal, the other one described in the *Flora Capensis*, Vol. 1, p. 50, as *Schepperia juncea*, Neck, being confined to the Cape Colony.

Fig. 1, flower; 2, nectary at base of the torus; *all enlarged*.

PLATE 262.

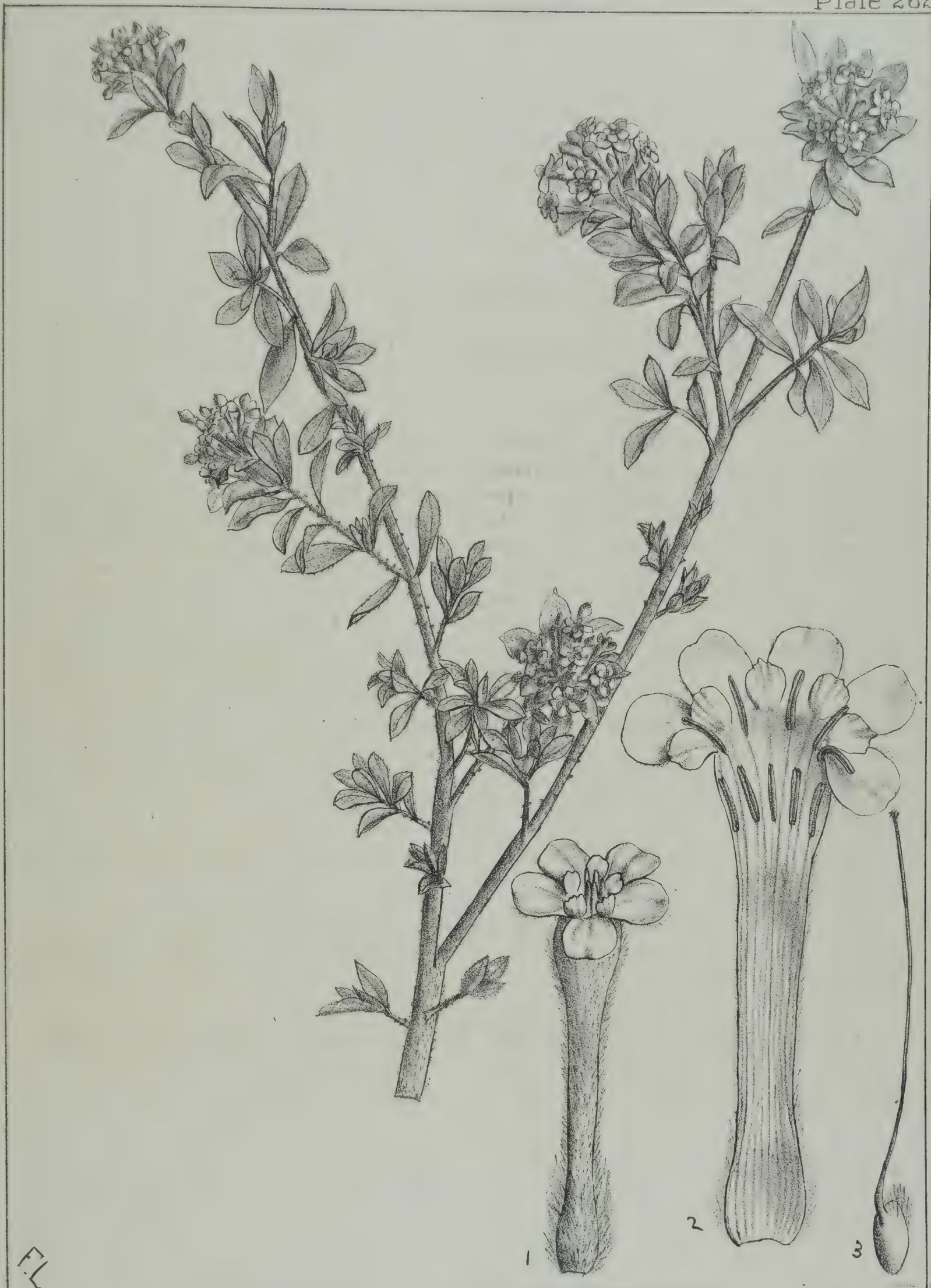
LASIOSIPHON MACROPETALUS, Meisn. (D.C. Prod. XIV. 594.)
Natural Order, THYMELÆÆ.

A much branched undershrub with yellow flowers, reaching to 5 feet or more in height. Stem and branches terete, bark brown, shining, younger portions tomentose, older subglabrous. Leaves alternate, petiolate, exstipulate, obovate to oblanceolate, entire, acute at apex, tapering gradually to petiole at base; pilose with white hairs on both surfaces; 5 to 9 lines long, $1\frac{1}{2}$ to 3 lines wide; petiole compressed, $\frac{1}{2}$ to 1 line long. Inflorescence in terminal many flowered heads, each surrounded by an involucre of several leaf-like bracts in one or two rows, the flowers seated on a thickened villous receptacle, the outer ones opening first. Perianth salver shaped, tube cylindrical, swollen at apex, jointed and at length deciduous above the ovary, pubescent, 4 to 6 lines long; limb 5-parted, the lobes oblong, entire, 1 to $1\frac{1}{2}$ line long; scales petaloid, exserted, half as long as the lobes, ovate, with a projecting point at apex, and a distinct midline on the face. Stamens 10, in two rows, the upper row exserted, the lower row included in upper portion of the tube, all subsessile. Ovary sessile, enclosed in base of perianth tube, hairy at apex. Style shorter than perianth tube, filiform; stigma truncate. Nut enclosed in persistent base of the perianth tube; 1-seeded.

Habitat: NATAL: Inanda; 1,800 feet alt., *Wood* No. 36; near Durban, 100 feet alt, *Wood* No. 8280.

This is the tallest species of the genus that we have in Natal, it is much branched, and the flower heads are small. The bark is tough and is used by the natives instead of string.

Fig. 1, flower; 2, perianth opened; 3, ovary style and stigma; *all enlarged*.



Laiosiphon macropetalus, Meissn.



Phytolacca abyssinica, Hoffm.

PLATE 263.

PHYTOLACCA ABYSSINICA, Hoffm. (in Comm. Gotting XII, (1796), 27).
Natural Order, PHYTOLACCACEÆ.

A climbing shrub with greenish white flowers. Root thick, somewhat succulent. Stem and branches green, terete, glabrous and shining. Leaves alternate, petiolate, exstipulate, entire, ovate, glabrous, herbaceous, veins pinnate, midvein very prominent beneath, lamina 3 to 4 inches long, by 2 to 3 inches wide; petiole fleshy, 1 to 1½ inch long. Inflorescence in axillary and terminal, many flowered racemes, which reach to 6 inches or more in length, and are floriferous from base to apex. Perianth 5-parted, 2-lines in diameter, the segments ovate, reflexed, concave, minutely glandular, pubescent and ciliate, with a tuft of white hairs at apex internally; bracteate at base, the upper bract similar to the perianth segments, but a little smaller than them, 1 to 2 lower ones small; pedicels 1 to 3 lines long, minutely pubescent. Stamens 10–15–20, somewhat irregularly inserted on disk at base of perianth segments, and much exserted; filaments subulate, flattened at base; anthers 2-celled, oblong, basifixed, splitting. Carpels 5, connate at base, minutely glandular, 1-celled, 1-ovuled; style very short, stigma minute, truncate, papillose. Fruit fleshy, the 5 connate carpels each tipped with remains of the persistent style; yellow when ripe.

Habitat: NATAL: Coast and midlands; Umhloti valley, ca 1,000 feet alt, July, *Wood* No. 949; Umlasi location, 800 feet alt, July, *Wood*; Botha's Hill, *Wood*; near Pinetown, 800 feet alt, July, *Wood* No. 8279.

This genus includes more than 20 species, two only of which are indigenous in Natal, but a third one, *P. octandra* a native of Japan has made its appearance in the Colony and has spread considerably especially along the railway lines, and it is said to be injurious to cattle. Our two indigenous species belong to the same section of the genus, and the other one was figured and described in Vol. 1 of the present work, Plate 3. Both of these species are considered by the natives to be poisonous, and are known by the same name "Mahaden."

Fig. 1, flower; 2, carpels in situ, one only complete; 3, disk and stamens, carpels removed; 4, stamens, back and front view; *all enlarged*.

PLATE 264.

HERMANNIA GERRARDI, Harvey (Fl. Cap. Vol. 2, Page 588).
Natural Order, STERCULIACEÆ.

A procumbent plant growing on dry rocks, or occasionally on moist banks. Stems 2 to 3 feet long, lying close to the ground, simple or branched, hispid with short, stalked, stellate, rigid hairs. Leaves stipulate, petiolate, oblong, obtuse, subcordate at base, indistinctly crenate, laxly covered with stellate hairs both stalked and sessile; $2\frac{1}{2}$ to 5 inches long, including petiole, $1\frac{1}{2}$ to 3 inches wide; stipules broad, amplexicaul, palmatifid. Inflorescence in lateral and terminal branched racemes; flowers orange yellow. Calyx 5-fid, densely canescent with stellate hairs, lobes acute; pedicels slender, equalling the calyx; bracts pinnatifid, with linear segments. Petals 5, obovate, with the lower margin reflexed, nearly twice as long as the calyx. Stamens 5, hypogynous, connate at base, anthers 2-celled, dorsifixed, rounded at base and each cell acuminate at apex; filaments broadly linear, slightly winged just below apex, stellate-pubescent. Ovary stellate-pubescent, turbinate, 5-celled, many seeded; styles 5, separate, filiform; stigmas minute. Fruit a capsule.

Habitat: NATAL: Dry rocks near Mooi River, *W. T. Gerrard*; near Curry's Post, April, *Wood* No. 4448; Mount Gilboa range, *J. Wylie*, April (*Wood* No. 6069).

Professor Harvey in describing this plant in the *Flora Capensis* says: "This has quite the habit and even the cloven stipules of *Mahernia chrysantha*, but the filaments are those of a *Hermannia* though extremely narrow."

These two genera are now united, *Mahernia* forming a section of the genus *Hermannia*. This plant has no known useful properties, and the natives so far as we can learn have no distinctive name for it.

Fig. 1, calyx opened; 2, lobe of corolla; 3, stamens, ovary, styles and stigmas; 4, ovary, styles and stigmas, more enlarged; 5, a stamen more enlarged; 6, cross section of ovary; *all enlarged*.



Hermannia Gerrardi, Harv.



Euclea natalensis, A.D.C.

PLATE 265.

EUCLEA NATALENSIS, A. D.C. (Prodr. VIII., p. 218, n. 10, 1844).
Natural Order, EBENACEÆ.

A dioecious tree, 30 to 45 feet high, with a usually straight trunk. Bark dark coloured, sometimes almost black. Leaves alternate or sometimes opposite, narrowly elliptical, entire, coriaceous, undulate, thickened at margin, obtuse, recurved and with a sharp horny recurved mucro, tapering to base, glabrous, dark green and shining above, lighter and dull beneath, midrib distinct on both surfaces, prominent beneath; 2 to 5 inches long, $\frac{3}{4}$ to $2\frac{1}{2}$ inches wide; petiole 6 to 9 lines long. Inflorescence of male in short axillary panicles, 1 to $1\frac{1}{4}$ inch long, pubescent; flowers yellow. Calyx widely campanulate, 4–5 fid, teeth deltoid, erect, acute; 1 line long. Corolla 4–5 lobed, lobes broadly ovate, twice longer than calyx, twisted in æstivation. Stamens (in our specimens) 15–20, usually in pairs, erect, filaments short, anthers sagittate, acute at apex, silky; ovary rudimentary. Female inflorescence similar to male, but racemes usually fewer flowered, and flowers without stamens. Ovary silky, styles 2, short, 2-lobed. Fruit a 1-seeded berry, 4–5 lines in diameter, red when ripe.

Habitat: NATAL: Coast forests to Drakensberg; Groenberg, 2,000 feet alt, July, *Wood* No. 953; near Durban, 150 feet alt, August *Wood* No. 8284.

The genus *Euclea* includes 19 species, all natives of Tropical and South Africa, they are all trees or shrubs, but so far as our information goes the wood of the above described species is little if at all used. The tree is known to the natives as i-Dungamusi. Mr. Fourcade in his "Report on the Natal Forests," p. 114 says of it:—

"A small tree, $1-1\frac{1}{2}$ feet in diameter, 30 to 45 feet high. Bark dark grey or black, thin, cracked, wood heavy, hard, strong, not elastic; annual rings regular, medullary rays very fine; pores large, not numerous, distributed in short radial lines. Colour white tinged with brown, sometimes mottled with dark patches; not used.

Fig. 1, male flower, corolla separated; 2, section of female flower; 3, pair of stamens; *all enlarged*.

PLATE 266.

CRASSULA ROSULARIS, Haw. (Fl. Cap. Vol. 2, p. 350).
Natural Order, CRASSULACEÆ.

Herbaceous with fleshy leaves, and white flowers. Stem very short, clothed with remains of the old leaves, sometimes branched at base. Leaves rosulate, subradical, spreading, imbricate, oblong, obovate or spathulate, flat, acute or obtuse, entire, thick, coriaceous, margins cartilagineous and ciliate with short, stiff spreading or reversed white hairs; 2 to 4 inches or more long, $\frac{1}{2}$ to $1\frac{1}{2}$ inch broad. Peduncles scape-like, rising from centre of the rosette of leaves, with a pair of opposite, oblong or linear depauperated leaves or bracts at each node; 6 to 12 inches or more long. Inflorescence paniculate or thyrsoïd, the lowest branches much the longest, gradually shorter upwards, with a pair of small linear bracts at each division of the inflorescence, the flowers pedicellate, white. Calyx 5-cleft, oblong, ciliolate, its lobes erect, $\frac{1}{2}$ line long. Corolla 5-lobed, the lobes connate at base, obtuse at apex, entire, $1\frac{1}{2}$ line long. Stamens 5, alternate with and shorter than petals, free nearly to base; filaments filiform, anthers oblong, 2-celled. Squamæ minute, triangular. Carpels 5, oblong-acuminate. Styles short, stigmas recurved. Follicles 5, several seeded.

Habitat: NATAL: Inanda, 1,800 feet alt, June, *Wood* No. 600; near Durban, 500 feet alt, July, *Wood* No. 8282.

A rather pretty species which is not very common in Natal, it is found also in several parts of Cape Colony. In the description of the plant in the *Flora Capensis* the petals are said to be apiculate, but in our specimens they are as described and figured. The plant is of no economic value and the natives have no distinctive name for it.

Fig. 1, flower 2, corolla opened, stamens in situ; 3, stamens; 4, flower, corolla and stamens removed; *all enlarged*.



Crassula rosularis, Haw.



Celastrus acuminatus, Linn.

PLATE 267.

CELASTRUS ACUMINATUS, Linn. f. (Fl. Cap. Vol. 1, p. 454).
Natural Order, CELASTRINEÆ.

An unarmed shrub or small tree from 5 to 20 feet in height with trunk 7 to 18 inches in diameter. Bark dark brown, thin, even, twigs angular. Leaves alternate, petiolate, exstipulate, elliptical, elliptical-oblong or broadly lanceolate, acute, and mucronate at apex, cuneate at base, pale beneath, margins slightly recurved or thickened (in the dried specimens) distantly serrate, veinlets prominent beneath, obscure above; 1 to $2\frac{1}{2}$ inches long, $\frac{1}{2}$ to 1 inch wide; petiole 1 to 3 lines long. Inflorescence axillary, umbellate, umbels 1 to 4 flowered, peduncles shorter than the petioles; pedicels 1 to $1\frac{1}{2}$ line long, lengthening a little in fruit. Calyx 5-fid, lobes acute, apiculate, spreading. Petals 5, elliptic-orbicular, 3-4 times longer than calyx, spreading. Stamens 5, alternate with petals, inserted under margin of the disk, filaments short, thick, anthers sub-globose, 2-celled. Disk indistinctly lobed. Ovary 2-celled, cells 2-ovuled, style none, stigma truncate. Capsule oblong or obovate, 2 to 4 lines long, 2-seeded by abortion, dehiscent. Seeds oblong, compressed, brown, aril thin, orange coloured.

Habitat: NATAL: Near Durban, 150 feet alt, July, *Wood* No. 8283; Gerrard & McKen No. 1370 without locality.

A shrub or small tree known as "Silkbark," to Dutch colonists as "Zydebast," to natives as "um-Nama." Mr. Fourcade, in his report on the Natal Forests, Page 100, says of it:—

"A small tree of 9 to 18 inches in diameter, 20 to 30 feet high. Bark dark brown, thin, even, wood very heavy, hard, strong, very close grained and compact, with close and narrow concentric bands of white tissue; medullary rays very fine and close; pores very small, irregularly distributed, colour pale pink tinged with brown, suitable for turners work and engraving. This species is easily known from a curious peculiarity of the leaves and bark, which show numerous fine white, silky threads when broken."

Also found in Cape Colony.

Fig. 1, flower; 2, same, corolla removed; 3, calyx lobe; 4, corolla lobe 5, capsule open; *all enlarged*.

PLATE 268.

VERNONIA ANISOCHAETOIDES, Sond. (Fl. Cap. Vol. 3, p. 49).
Natural Order, COMPOSITÆ.

A half climbing much branched shrubby plant with straw coloured flowers. Stems elongate, bark light coloured, striate or wrinkled; branches striate, green, finely pubescent between the ribs. Leaves alternate, petiolate, broadly or depressed ovate, acute at apex, gradually tapering to the petiole at base, entire or more commonly sharply, bluntly and irregularly incised in the upper portion; young ones finely pubescent, older glabrous, minutely glandular beneath; $1\frac{1}{2}$ to 3 inches long, 1 to $3\frac{1}{2}$ inches wide; petioles very short, recurved, finely woolly pubescent. Inflorescence terminal on the branches, paniculate, the panicles spreading, the branches divaricate; minutely scurfy. Heads about 16-flowered, homogamous. Receptacle honeycombed. Involucral scales in several rows, acute, ciliate, calyced. Corolla deeply 5-fid, the lobes oblong, recurved, twice longer than involucral scales. Pappus of many scabrous bristles of nearly equal length, with a few shorter ones as an outer row. Achenes (unripe) glandular.

Habitat: NATAL: Coast districts; near Durban, 150 feet alt., August, *Wood* No. 8311.

The genus *Vernonia* is a very large one including according to the *Genera Plantarum* about 380 species, and no doubt many have been added to it since that work was published. They are most plentiful in tropical countries, usually herbs, but sometimes shrubby and of very diverse habit. The species here described has no economic value and I am unable to learn whether or not the natives have any distinctive name for it.

Fig. 1, floret; 2, section of flower head, florets removed; 3 style and stigmas; 4, achene with pappus; 5, stamens; *all enlarged*.



Vernonia anisochaeloides, Sond.



Helichrysum Kraussii, Sch. Bip.

PLATE 269.

HELICHYSUM KRAUSSII, Sch. Bip. (Fl. Cap. Vol. 3, p. 249).
Natural Order, COMPOSITÆ.

A much branched undershrub, with yellow flowers, 1 to 3 feet high. Stem terete, marked with scars of fallen leaves; branches virgate, suberect, thinly canous, leafy in upper portion. Leaves scattered, sessile, linear or oblanceolate, spreading, at length recurved or reflexed, mucronate, margins strongly revolute, midrib prominent beneath; glabrous above, tomentose beneath; 4 to 9 lines long; $\frac{1}{3}$ to 1 line wide. Inflorescence of many usually flat topped cymes which are frequently much branched. Involucre cylindrical, scales imbricate in several rows, erect, glossy, scarious, closely appressed, pale yellow. Heads $1\frac{1}{2}$ to 2 lines long, each containing 5 florets, of which four are perfect and one female. Receptacle honeycombed. Corolla of perfect florets tubular, 5-toothed at apex, swollen from centre to apex; of female florets similar, but scarcely swollen; all minutely glandular at apex. Pappus in one row, of many scabrous bristles. Anthers sagittate at base. Style slender, bulbous at base, seated on a minute annular disk; branches truncate. Achenes glabrous.

Habitat: NATAL: Coast districts. Near Durban, August and September, 150 feet alt., *Wood* No. 8312.

This plant appears to be confined to the coast districts, and usually if not always near the sea coast, where in sandy soil and amongst low shrubs it abounds; it has no economic value, nor so far as we are aware any popular or native name. The globose bulbous base of the style, though microscopic is worthy of notice.

Fig. 1, flower head; 2, involucral scale; 3, perfect floret; 4, staminal floret; 5, stamens; 6, ovary, style and stigma; *all enlarged*.

PLATE 270.

LASIOSIPHON ANTHYLLOIDES, Meisn. (in DC. Prod. XIV. 595).
Natural Order, THYMELEACEÆ.

An undershrub with lemon yellow flowers. Stems erect, much branched from the base, branches virgate, terete, bark light brown, scarred in lower portion by base of fallen leaves, glabrous; upper leafy portion pilose with long white hairs, densely so near apex. Leaves alternate, exstipulate, very shortly petiolate, linear-oblong to elliptical, the upper ones below the flower heads much the largest; quite entire, acute at apex, rounded at base, pilose beneath, and ciliate with long white hairs, the young ones densely so; $\frac{1}{2}$ to $1\frac{1}{4}$ inch long, 2 to 5 lines wide; petioles $\frac{1}{2}$ to 1 line long, thickened. Inflorescence in terminal many flowered bracteate heads. Bracts 10 to 15 or more, gradually passing into the true leaves; lanceolate; 8 to 12 lines long, 2 to 4 lines wide. Receptacle flat, honeycombed. Disk annular. Perianth tubular, pilose externally, circumscissile above the base, the lower portion enclosing the ovary and eventually hardening round it; upper and deciduous portion cylindrical, widening a little below throat; limb 5-lobed, lobes oblong, spreading or a little recurved. Scales 5, alternate with lobes, very minute or occasionally absent. Stamens 10, in two rows, inserted a little below throat; upper row a little exserted, lower included; filaments very short; anthers lanceolate, 2-celled. Ovary enclosed in the persistent base of perianth tube, sessile, 1-celled, 1-seeded, pilose in upper portion; style lateral, filiform; style capitate bristly, included or exserted. Seeds $2\frac{1}{2}$ lines long, testa crustaceous.

Habitat: NATAL: Coast districts, probably extending to 2,000 feet or more above sea-level. Near Durban, 100 feet alt, September, *Wood* No. 8321.

This is the third species of this genus figured in the present volume, the others being *L. Kraussii* (Plate 256) and *L. macropetalus* (Plate 262). It is rather a showy plant when in flower, and is known to the native as "Indolo," but I cannot learn that they make any use of it. The flowers are fragrant especially in the evening. According to Dr. Andrew Smith, M.A., the dried root of this species is used medicinally by the natives in Cape Colony, and also as a remedy for snake bite, he also says:—

"If a small fragment is chewed, it is nearly tasteless at first, but its burning quality is presently developed. Great caution must be used as to the quantity administered. It becomes a question whether the roots of the *Lasiosiphons* might not be employed with advantage in minute doses as a substitute for arsenic (Fowler's solution), or to make a lotion for the throat in place of a solution of lunar caustic. They would be much safer than either.

Fig. 1, flower; 2, upper part of corolla tube and portion of lobes, showing the stamens and scales; 3, ovary, style and stigma; *all enlarged*.



Laiosiphon anthylloides, Meisn.



Stachys nigricans, Bth.

PLATE 271.

STACHYS NIGRICANS, Bth. (in E. Mey. Comm. Pl. Afr. Austr. 238).
Natural Order, LABIATÆ.

Herbaceous with white or pinky white flowers. Roots several, fusiform, 2-5 inches long, 2 to 4 lines wide. Stems slender, erect, quadrangular, sulcate, pilose, simple or branched, 2 to 4 feet or more in height. Leaves opposite, decussate, exstipulate, subsessile, linear-oblong, crenate, obtuse at apex, rounded at base, bullate on upper surface, veins very prominent beneath; hispid on upper surface, and on veins and veinlets beneath; $1\frac{1}{2}$ to $2\frac{1}{2}$ inches long, 4 to 6 lines wide. Inflorescence in axillary 6-flowered whorls forming a terminal raceme. Calyx gamosepalous, 5-lobed half-way down, 5-ribbed, finely pilose externally; tube campanulate, lobes acuminate, ciliate; the whole calyx 2 to 3 lines long; pedicels 1-line long. Corolla gamopetalous, long exserted, bilabiate, tube longer than calyx, cylindrical; upper lip suberect, entire, concave, external in bud, hispid externally and ciliate, light pink, lower lip 3-lobed, the central lobe much the largest, ovate or sub-rotund, twice longer than upper lip, emarginate, finely hispid on midvein beneath, glabrous above, lateral lobes small, acute; white with faint pink markings in throat; the whole corolla 6 to 8 lines long. Stamens 4, didynamous, inserted below throat, ascending under the concave upper lip of corolla; anthers 2-celled, cells divergent. Style slender, subequally 2-fid, the lobes acute. Nuts 4, ovate, glabrous, seated on an annular disk.

Habitat: NATAL: Coast and midlands. Inanda, 1,800 feet alt, November, *Wood* No. 5; near Tongaat, 800 feet alt, October, *Wood* No. 8320.

The genus *Stachys* includes some 200 species which are widely dispersed, about 30 or more are found in South Africa, and of these 10 have been identified as natives of Natal. The above described plant is perhaps the tallest of the Natal species, it has no real economic value so far as known to us, but the natives are said to use the roots as a sort of tonic and call it u-Musa.

It will be noticed that the anther cells are said to be divergent, but this is hardly discernable when the flowers are fully opened, but an examination of the young bud shows it at once.

Fig. 1, flower; 2, corolla opened; 3, calyx opened; 4, ovary, style and stigma; 5, ovaries and disk; *all enlarged*.

PLATE 272.

TECOMA CAPENSIS, Lindl. (Bot. Reg. t. 1117).
Natural Order, BIGNONIACEÆ.

A rambling shrub with scarlet flowers. Stems and branches terete, brown, thickly studded with lenticels. Leaves opposite, unequally pinate, exstipulate, petiolate, common rhachis 3 to 4 inches long to base of the terminal leaflet, deeply channelled above, rounded beneath, more or less swollen at base. Leaflets in one to four pairs, shortly petioled, varying from suborbicular to ovate or broadly ovate, margins crenate, apex acute, rounded and often unequal at base, veins and veinlets prominent beneath, visible above; dark green above, lighter coloured beneath, quite glabrous; $\frac{3}{4}$ to $1\frac{1}{2}$ inch long, $\frac{3}{4}$ to 1 inch broad; petiole 1 to 2 lines long; terminal leaflet broadly ovate to ovate-acuminate, or oblong acuminate, $1\frac{1}{4}$ to $1\frac{3}{4}$ inch long, $\frac{1}{2}$ to $1\frac{3}{4}$ inch wide, its petiole $\frac{1}{4}$ to $\frac{3}{4}$ inch long, otherwise similar to the lateral ones; all channelled and slightly winged above. Inflorescence racemose, terminal on the stems and branches. Bracts linear, 2 to 3 lines long. Calyx tubular, 5-toothed, 5-ribbed, teeth acute, erect, 3 lines long, pedicels 2 to 4 lines long. Corolla gamopetalous, glabrous, tube laterally compressed, curved, gradually dilated to throat; limb 5-lobed, imbricate in bud, the two upper lobes connate for two thirds of their length, two lateral ones oblong, acute or obtuse, strongly reflexed, lower one similar, deflexed; all darker lined from base. Stamens 4, with rudiment of a fifth, didynamous, inserted on tube above its base, exserted, ascending under upper lip of corolla; filaments slender, curved, salmon coloured, anthers mucronate at apex, 2-celled, deeply sagittate, at length divergent, attached at sinus; red brown. Ovary superior, seated in a brown annular disk; style long, slender, curved, longer than stamens, stigma bi-lamellate, the lobes equal, oblong-ovate. Capsule 2-celled, 2-valved.

Habitat: NATAL: Coast and midlands. Groenberg 2,000 feet alt, June, *Wood* No. 568; near Durban, 150 feet alt, August, *Wood*.

The genus *Tecoma* includes about 24 species, two of which are found in South Africa. The one here described is a very handsome climbing plant and is well known in cultivation. So far as we are aware it has no useful properties, and is cultivated for ornament only.

Fig. 1, corolla opened, showing insertion of stamens, *natural size*; 2, flower, corolla removed; 3, ovary and disk; 4, portion of twig with two capsules; *except fig. 1; all enlarged*.



Tecoma capensis, Lindl.



Cynium adonense, E. Mey.

PLATE 273.

CYCNIUM ADONENSE, E. Mey. (Benth. in Hook. Comp. Bot. Mag. 1 (1835) 368).
Natural Order, SCROPHULARINÆ.

Herbaceous plant with large white flowers. Roots fibrous or somewhat fleshy. Stems ascending, usually several in a clump, compressed or subquad-rangular, hispid with white glandular hairs; 6 to 12 inches long. Leaves normally opposite, but occasionally alternate, sessile, exstipulate, ovate to ovato-lanceolate, margins irregularly and deeply crenate or crenato-serrate, apex acute, obtuse or emarginate; tapering to, and 3 to 5 veined at base, veins prominent beneath, distinct above, scabrous on both surfaces; $1\frac{1}{2}$ to $2\frac{1}{2}$ inches long, $\frac{3}{4}$ to $1\frac{1}{2}$ inch wide. Flowers solitary, axillary. Pedicels $\frac{1}{2}$ inch long, erect, curved. Calyx gamosepalous, tube cylindrical, strongly 10-ribbed, a rib reaching the apex of each calycine lobe, and one ending in each sinus; lobes 5, $\frac{1}{3}$ to $\frac{1}{2}$ the length of the tube, oblong from a broad base, obtuse, acute, or a little emarginate at apex, the whole calyx $1\frac{1}{4}$ to $1\frac{1}{2}$ inch long, pilose on the ribs externally, glabrous on inner surface; bracts 2, linear, 3 lines long, seated on calyx tube 2 to 3 lines above the base. Corolla gamopetalous, tube more or less strongly ribbed, glandular hairy externally, thickly clothed with reversed hairs internally, widening just below throat, $2\frac{1}{2}$ to $3\frac{1}{2}$ inches long; limb 2-lipped, upper lip 2-fid, lower deeply 3-lobed, lobes ovate, entire, veiny, the whole corolla 2 to 3 inches in diameter, white. Stamens 4, included, inserted on middle of tube, two of the filaments 3 to 5 lines long, the other two very short, all pilose with jointed hairs; anthers linear, 1-celled, obtuse at apex, dorsifixed. Ovary superior, ovate, 2-celled, ovules numerous; style short, stigma elongate or clavate. Capsule straight, fleshy, enclosed in the enlarged calyx, and seated on an annular disk.

Habitat: NATAL: Coast and Midlands, Inanda, 1,800 feet alt, September, *Wood* No. 50; near Durban, September, October, *Wood*; Mount Moreland, 500 feet alt, September, *Wood* No. 8235.

This genus contains seven species only, of which five are confined to South Africa, and four of these occur in Natal, the other in Cape Colony, of the other two one is a native of Arabia, the other of Abyssinia. The species are thought to be parasitical on the roots of other plants, and so far as we are aware have never been cultivated, though the above described species and *C. racemosum* (Plate 211) are quite worthy of cultivation. *C. adonense* is usually found in open grassy ground, and its pure white flowers are very conspicuous, but rapidly blacken on being handled, the whole plant becomes black in drying as do other species of the genus. It is often known as the "Mushroom flower" partly because it appears in the mushroom season, and also, perhaps, it is often in the distance mistaken for a group of mushrooms.

Fig. 1, corolla tube opened; 2, ovary; 3, cross section of ovary; 4, stamen; 5, glandular hair; 6, moniliform hair from stamen; *all enlarged*.

PLATE 274.

ARGYROLOBIUM STIPULACEUM E. & Z. (Fl. Cap. Vol. 2, p. 71).
Natural Order, LEGUMINOSÆ.

A low undershrub with bright yellow flowers. Stems erect, sub-simple, terete, densely pilose with long white silky hairs; 3 to 6 inches high. Leaves alternate, stipulate, trifoliolate, distant in lower portion of stem, closer placed upwards, leaflets elliptic-oblong to ob-lanceolate, margins entire, acute at apex, tapering to base, densely silvery and silky villous on lower surface, thinly so above; $\frac{1}{2}$ to $1\frac{1}{2}$ inch long, 2 to 5 lines broad. Common petioles 1 to 3 lines long, secondary ones none. Stipules broadly ovate, similar to the leaves, sessile, reaching to 13 or 14 lines long, 4 to 6 lines wide. Flowers sub-umbellate, axillary and terminal; peduncles reaching to 2 inches long, pedicels 1 to 4 lines long. Calyx gamosepalous, 2-lipped, upper lip deeply 2-lobed, lobes lanceolate, lower lip 3-fid half way down, central tooth narrow linear, lateral ones broader, acuminate, silky villous; the whole calyx 6 to 7 lines long. Corolla papilionaceous, vexillum erect, broadly ovate, densely silky on back, longer than carina; alae oblong, glabrous, carina obliquely oblong. Stamens monadelphous; anthers 10, of which five are large and oblong, and 5, ovate and smaller. Ovary many ovuled, pilose with long hairs; style curved, glabrous; stigma sub-globose. Legume inflated, oblong, pilose, $1\frac{1}{4}$ inch long.

Habitat: NATAL: Coast to 4,500 feet alt; Mooi River district, 4,500 feet alt, October, *Wood in Government Herbarium*, No. 3761; near Tongaat under 1,000 feet alt, October, *Wood* No. 8322.

A rather pretty plant with very conspicuous flowers, and usually silvery foliage. It is found in grassy places almost all over the Colony, but not so plentifully on the coast as in the midlands. It has no known useful properties, and the natives do not appear to have any distinctive name for it.

Fig. 1, flower; 2, calyx opened; 3, vexillum; 4, ala; 5, carina; 6, stamens and stigma; 7, ovary style and stigma; 8, legume; *except Fig. 8, all enlarged.*



Argyrolobium stipulaceum, E & Z.



Sericocoma chrysurus, Meisn.

PLATE 275.

SERICOCOMA CHRYSURUS, Meisn. (in Hook. Lond. Jour. Bot. II (1843) 547 (err typ. 447).

Natal Order, AMARANTACEÆ.

A perennial herb with one or several stems from a woody root. Stems erect, usually simple, striate, minutely puberulous. Leaves mostly opposite, exstipulate, lanceolate, entire, acute at apex, tapering gradually to a very short petiole, margins entire, quite glabrous, 1 to 3 inches long including petiole, $\frac{1}{4}$ to $\frac{1}{2}$ inch wide. Inflorescence in terminal cylindrical spikes, with occasionally 1 or 2 smaller spreading spikes at base. Flowers 2-3 together, forming a dense cylindrical spike from 1 to 6 inches long. Perianth 5-parted, lobes equal, lanceolate, obtuse, scarious, with a very prominent midrib reaching to apex of lobe, and two smaller and shorter lateral ones; 4-lines long. Bracts 2, ovate to ovato-lanceolate, villous with long moniliform white hairs on outer surface. Stamens 5, connate in a cup at base, opposite perianth lobes, and alternating with 5 scale like, truncate staminodes; shorter than perianth; anthers oblong, 2-celled, filaments pink. Ovary 1-celled, 1-ovuled, villous; style filiform, equalling the stamens; stigma capitate.

Habitat: NATAL: Coast and midlands. Groenberg, 2,000 feet alt, April, *Wood* No. 67; Mount Moreland, 500 feet alt, September, *Wood* No. 8323; not uncommon near Durban.

This genus contains 11 species all natives of Tropical and South Africa, of which two are found in Natal, the one here described and *S. augustifolia*, Hook, which has been collected in the upper districts. *S. chrysurus* is a weed growing in open grassy ground has no useful properties, and is not used in any way by the natives as far as we are aware.

Fig. 1, flower; 2, lobe of perianth; 3, stamens and staminodes; 4, ovary, style and stigma; 5, bract; 6, moniliform hair; *all enlarged*.

NATAL PLANTS.

Vol. 3.—Part IV.

—BY—

J. MEDLEY WOOD, A.L.S.,

CURATOR OF NATAL BOTANIC GARDENS, DURBAN.

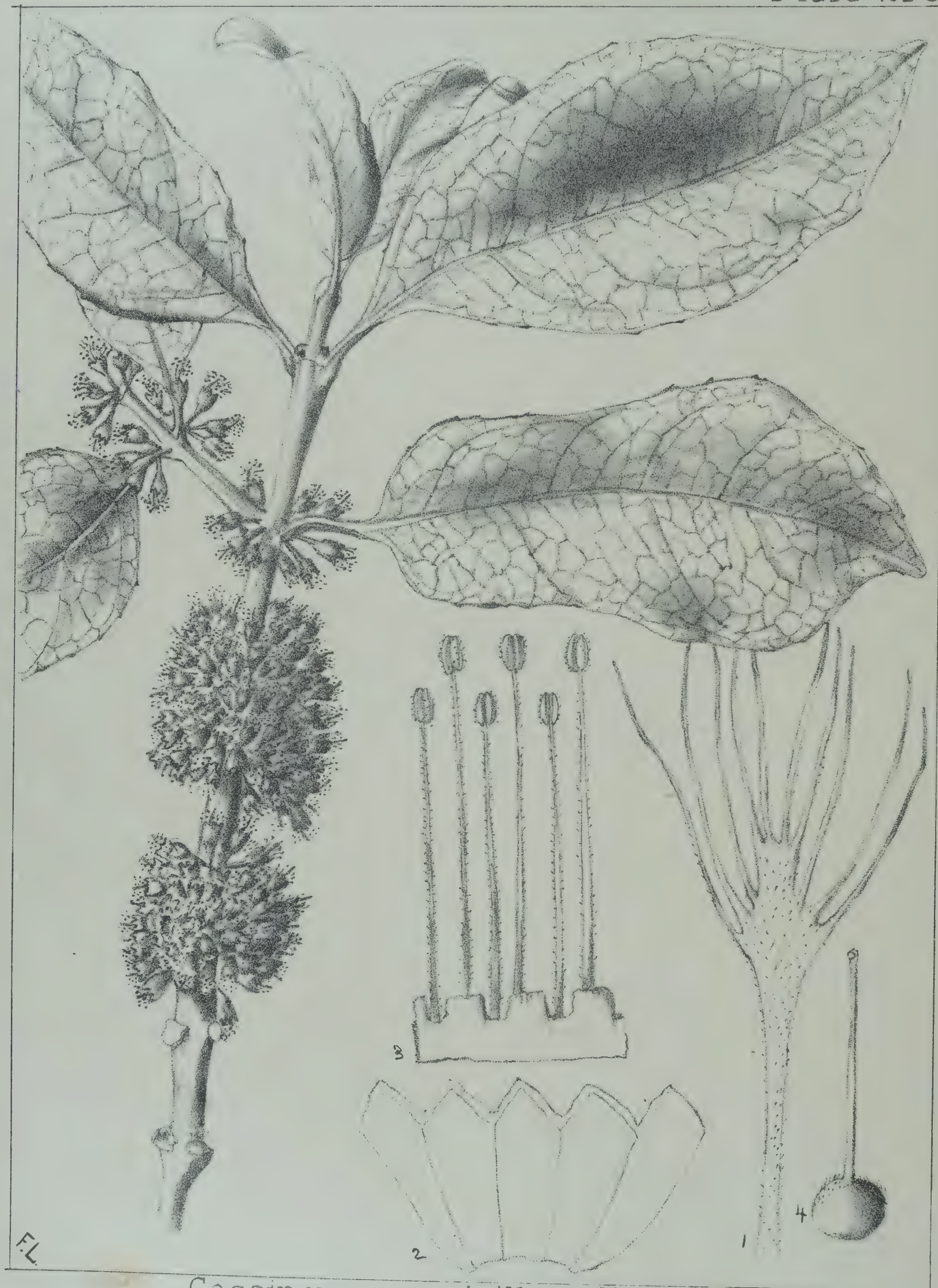
—AND OF—

NATAL GOVERNMENT HERBARIUM.

Title, Preface, and Index to Volume 3 is included in this part.

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1902.



Cassipourea verticillata, N E Brown.

PLATE 276.

CASSIPOUREA VERTICILLATA, N. E. Brown (Kew Bull. 1894, p. 5.)
Natural Order, RHIZOPHOREÆ.

A small copiously branched tree, reaching to 20 feet in height. Bark chestnut brown, thickly covered with lenticels, glabrous. Leaves usually in verticels of 3, or occasionally 4, often 2 only, petiolate, exstipulate, oblong, obtuse or subacute at apex, cuneate or obtuse at base, margins entire or obscurely crenato-serrate; coriaceous, quite glabrous, dark green and shining above, lighter coloured and duller beneath, veins distinct on both sides; 3 to $5\frac{1}{2}$ inches long, $1\frac{1}{2}$ to $2\frac{3}{4}$ inches wide; petiole 4 to 6 lines long. Flowers densely fasciated in axils of the leaves, white. Calyx tubular widening to apex, 6 to 7 toothed, teeth triangular, acute or obtuse, the whole calyx 2 lines long, the teeth much shorter than the tube; pedicels $1\frac{1}{2}$ to 2 lines long, articulated in the middle. Petals 5 to 7, very narrow and tapering to base, the apex divided into several narrowly linear fimbrials, and appressedly pubescent. Stamens 10 to 14, monadelphous at base, the short staminal tube bluntly lobed, the alternate stamens affixed in the sinuses between the lobes, filaments filiform, anthers ovate, 2-celled. Ovary ovoid, densely hirsute at apex, 2-celled, cells 2-ovuled; style equalling stamens, stigma minutely bilobed. Seeds pendulous, ellipsoid, with a large, yellow arillus.

Habitat: NATAL: Near Pinetown, 1,100 feet alt. April, Wood No. 3,876; Coedmore ca 500 feet alt. (fruit), June, Wood No. 4,619; Botanic Gardens cult., December, Wood.

Figured and described from specimens gathered in Botanic Gardens, December, 1901.

A very handsome tree which is apparently rare, it does not seem to be known to the natives, and in the wild state only two specimens are at present known. The one first found was close to the railway line near Pinetown, the second on Mr. Stainbank's farm at Coedmore, from which tree specimens were sent to the Herbarium for identification, and from it also seeds were kindly sent by Mr. Stainbank, and from these seeds the trees now in the Gardens were reared. The seed was received in 1892, plants were put out in 1894, and flowered for the first time in 1898, they are now about 15 feet high and leafy almost to the ground. In a foot note to Mr. Brown's description he says:—

"I cannot find any characters of generic importance to separate the African *Dactylopetalum* from the American *Cassipourea*, and therefore have placed this plant under the older name of *Cassipourea*, to which genus I consider the species of *Dactylopetalum* should be transferred. *C. verticillata* is probably nearly related to *C. gummiiflua*, Tul, a Madagascar species I have not seen, and also bears considerable resemblance to *Dactylopetalum Barteri*, Hook, f., but is readily distinguished from both by its verticillate leaves, which are sometimes 3, sometimes 4 in a whorl."

We have seldom found 4 leaves in the whorl, but very frequently only 2, and occasionally branchlets are found on which the leaves are all opposite.

Fig. 1, a petal; 2, calyx opened; 3, staminal tube opened; 4, ovary, style and stigma; all enlarged.

PLATE 277.

DRACAENA HOOKERIANA, K. Koch. (Fl. Cap. Vol. 6, p. 275.)
Natural Order, LILIACEÆ.

A tall perennial herb reaching to 6 or 8 feet in height, usually simple, but occasionally branched. Leaves crowded towards apex of stem, sessile, ensiform, 2 to 3 feet long, $2\frac{1}{2}$ to $3\frac{1}{2}$ inches broad in centre, narrowed to 2 to $2\frac{1}{2}$ inches at base, and tapering to an obtuse apex, 2 to 3 lines thick at base, and strongly channelled, thin towards apex, margins entire and with a distinct whitish border, glabrous, dark green and shining on both surfaces, but slightly paler beneath; midrib rounded and thickened at base, gradually becoming less distinct upwards, and scarcely discernable 2 to 3 inches from apex, the fine parallel veinlets hardly visible. Inflorescence much branched forming an ample panicle 2 to 4 feet long, the branches wide and spreading, often again branched. Pedicels fascicled, 3 to 8 together, articulated at apex closely below the flower; bracts scarious, broad based, tapering to an acute apex, whitish, persistent, $\frac{1}{2}$ inch long, 2 to 3 lines wide at base. Perianth green, 6-lobed, $1\frac{1}{4}$ inch long, the lobes linear, dull white with a distinct central green line, minutely hooded at apex, tube a little swollen in lower portion. Stamens 6, inserted at apex of perianth tube, and as long as its segments, filaments inflated, very slender at apex, pure white, anthers sagittate, attached at sinuses, $1\frac{1}{2}$ line long. Ovary superior, 3-celled, cells 1-ovuled; styles 3, at first connate to apex, afterwards more or less separating; stigmas capitate.

Habitat: NATAL: Coast districts in woods. Umhloti, 500 feet alt, *Wood*; near Durban, 150 feet alt, January, *Wood* No. 8435. Also collected by *Thorncroft*, near Barberton.

The genus *Dracaena* contains about 50 species "spread throughout the tropical and sub-tropical zones of the old world." Many of these species are in cultivation, and numerous varieties of much beauty have been produced by horticulturists. The above described species is the only one that is indigenous in South Africa, and is very plentiful at margins of woods especially in coast districts, but it also reaches to some distance inland. Our plant appears to be the variety *latifolia* (Regel). The leaves contain a fibre, which is, however, of no economic value, as it is harsh and deficient in strength. A variety with variegated leaves was found near Umhlali by the late Mr. S. Hill, of Verulam, it is now in cultivation and has been, we understand, named *D. latifolia*, var. *Schmidtiana*.

Fig. 1, perianth opened; 2, a stamen; 3, ovary, style and stigma; 4, same showing the styles separated; 5, fruit; 6, longitudinal section of ovary; 7, cross section of same; *all enlarged*.



Dracaena Hookeriana, K. Kock.



Xanthium strumarium, Linn.

PLATE 278.

XANTHIUM STRUMARIUM, Linn. (Sp. Pl. edit. 1, p. 987.)
Natural Order, COMPOSITÆ.

A tall monoecious annual with large palmate or subentire leaves, and seed-vessels with hooked spines; the whole plant 1 to 3 feet high. Stems erect, branching, scabrous. Leaves alternate, petiolate, exstipulate, palmate or deeply lobed, margins finely and unequally crenato-serrate, more or less scabrid on both surfaces; primary veins prominent beneath, less so above, lamina reaching to 7 or 8 inches long or wide; petiole scabrous, channelled above, reaching to 6 inches or more in length. Inflorescence axillary and terminal, the male heads globose, pedunculate, female heads ovoid, subsessile. Male heads 2 to 3 lines in diameter, many flowered, involucre of a few linear-oblong scales, peduncle 2 to 3 lines long, with a minute subulate bract at base. Corolla 5-toothed. Stamens 5, monadelphous at base, anthers linear-oblong, membranous-tipped, the membrane inflexed. Female heads more numerous than the male ones, clustered in the axils, and having at base several linear-oblong ciliate bracts, in two or three rows, lengthening in fruit, the two innermost ones very large and consolidated into a hard mass, which externally is thickly clothed with hooked bristles, and terminates in two conical appendages, through which the two lobes of the stigmas project. Corolla 0. Ovaries 2, enclosed in a cell of the hardened involucre. Fruit a prickly burr, 1 inch or more long, 2-celled, cells 1-ovuled.

Habitat : NATAL : In waste places on coast and midlands.

A noxious weed which is now included in the same Law as *X. spinosum*. It is found in most tropical and subtropical countries, and in Australia is known as "Cockle Burr" or "Noogoo Burr." In addition to the fact that its burrs are quite as injurious to wool as those of *X. spinosum*, it is reported also to have poisonous or deleterious properties, this is denied by some writers, and there is still much doubt on this matter. In Natal the plant is certainly spreading, and in Queensland the Government botanist is reported to have said "I well remember when £50 would have stamped it out in my colony, now it would take untold wealth to do it." It is therefore most important that every care should be taken to rid the colony of what may prove to become a serious pest.

Unfortunately the seeds retain their vitality for a considerable time, it should, therefore, never be allowed to reach the seeding stage, but the young plants should be destroyed before flowering, or farmers may have cause to regret their apathy in the matter. The genus includes 4 species which have been unnecessarily much increased by authors, and its native country is unknown, but is probably America.

Fig. 1, female flower head; 2, longitudinal section of same; 3, ovary, style and stigma; 4, male flower head; 5, calyx of male flower opened; 6, stamens; *all enlarged*.

PLATE 279.

CHLOROPHYTUM COMOSUM, Baker (Fl. Cap. Vol. 6, p. 400).
Natural Order, LILIACEÆ.

Herbaceous, erect. Root fibres cylindrical, thickened in the middle or towards the extremity. Leaves 8 to 14, radical, linear, glabrous and shining, of rather firm texture, and narrowed gradually to apex, narrowed and thickened to the clasping and channelled base, 18 inches to 2 feet or more long, $1\frac{1}{4}$ to $1\frac{3}{4}$ inch wide in centre, midrib stout, rounded and prominent beneath, 12 to 15 nerved on each side. Peduncle reaching to 4 feet in length, including the inflorescence, in our specimens sparingly branched, the lower branches 12 to 18 inches long, both the peduncle and its branches bearing at their apices a tuft of 5 to 8 linear leaves, which are from 2 to 4 inches long. Bracts linear or subulate, 1 inch or more long. Pedicels slender, 4 to 5 lines long, articulated in the middle. Perianth 6-parted, spreading to 9 lines diameter, white, outer segments narrower than the inner ones, indistinctly and closely 3-nerved in centre. Stamens 6, two thirds as long as the perianth segments, filaments white, anthers 2-celled, yellow. Ovary superior, deeply 3-lobed, green, 3-celled, cells 7 to 9 seeded. Style linear, stigma simple. Capsule not seen.

Habitat: NATAL: Inanda, 1,800 feet alt, February, Wood No. 842 (partly); near Durban, January, 150 feet alt. Wood No. 8436.

This genus, according to the Flora Capensis, includes 11 species natives of South Africa, of which five are found in Natal, the remainder in Cape Colony, Transvaal, and near Delagoa Bay, and since publication of that work one species (*C. Haygarthii*, Wood & Evans) has been added to the list. There are many species in Tropical Asia, and a few in Australia and South America, some of them have been cultivated, but none are of special ornamental or economic value. On reference to the Flora Capensis it will be seen that Wood's No. 842 was said to be partly *C. comosum*, and partly *C. elatum*, but the whole of these specimens were gathered at the same time and close to each other, and on comparing the descriptions with the plant here described, it will be found that it does not agree with either of them, especially with regard to the number of ovules in the cells. I think that it is probable that this plant will eventually have to be placed as *C. elatum*, var *comosum*. The plant is really proliferous, propagating itself very copiously by these "tufts of linear leaves" the weight of which bends the stem or branch to the ground, where they readily take root, and the plant bears seed very sparingly, the group of some dozens of plants from which the specimens were taken for drawing and description was observed for several weeks, but not a single capsule was found, and nearly if not quite all of the stems and branches of the inflorescences were comose. These plants flowered again very profusely in March and April, but not a single capsule could be found.

Leaf and branch of the inflorescence, *about natural size*, and whole plant very much reduced. Fig. 1, flower; 2, a stamen; 3, ovary, style and stigma; *all enlarged*.



Chlorophytum comosum, Baker.



Thunbergia Dregeana, Nees.

PLATE 280.

THUNBERGIA DREGEANA, Nees. (Fl. Cap. Vol. V., p. 10.)
Natural Order, ACANTHACEÆ.

A twining plant with yellow flowers. Stems terete or 4-ribbed, hirsute with reversed hairs. Leaves opposite, petiolate, ovate-cordate or ovate-hastate, margins subentire; obtuse or apiculate, softly hairy on both surfaces, the hairs on the upper surface rising from minute pustules; 3 to 5 veined; 2 inches or more long, by $1\frac{1}{4}$ to 2 inches wide, petioles $\frac{1}{2}$ to 2 inches long, ribbed like the stem, hirsute. Inflorescence axillary, solitary, peduncles 2 to $4\frac{1}{2}$ inches long, subterete, pilose; bracteoles 2, ovate, acuminate, enclosing the calyx, pilose, veiny. Calyx much shorter than the bracteoles; of 12 linear teeth which equal the ovary, white and minutely glandular hairy. Corolla salver shaped, yellow, lighter coloured beneath, tube swollen in centre, and channelled above, pilose at base, $\frac{3}{4}$ inch long, limb oblique, 5-lobed, $1\frac{1}{4}$ to $1\frac{1}{2}$ inch diameter, lobes obovate. Stamens 4, on corolla tube at base, subdidynamous, filaments short, glabrous, anthers 2-celled, densely glandular hairy especially at base, connective produced into a short horn at apex, the cells often (but not always) spurred at base, the spur curved. Style glabrous, stigmas 2, one above the other, the upper one truncate, lower laminate, semi-cup-shaped. Ovary superior, seated in the persistent calyx, rostrate, the beak deeply channelled on the two opposite sides. Capsule globose, rostrate, 2-celled, cells 2-seeded; seeds black, reticulated, excavate at base.

Habitat: NATAL: Inanda 1,800 feet alt., *Wood* No. 543; near Durban 150 feet alt., March, *Wood*; also near Durban, January, *Wood*.

A common twining plant in coast and midland districts, the flowers are yellow, though in the Flora Capensis they are said to be white. The genus contains about 96 species, of which 17 are South African, 9 of which have been found in Natal.

The above described species and *T. atriplicifolia* are called by the natives isi-Pondo, and are used by them for making a wash for the hair, and the writer has seen the Indian women in Natal gathering the unripe capsules of *T. Dregeana* for the same purpose.

Fig. 1, calyx; 2, a stamen; 3, style and stigma; 4, fruit *about natural size*; 5, longitudinal section of same; 6, cross section of same; 7, seed, side view; 8, same, front view; *except fig. 4, all enlarged*.

PLATE 281.

HEWITTEA BICOLOR, Wight & Arn (in Madr. Journ. Sc., Ser I (1837) 22.)
Natural Order, CONVULVULACEÆ.

A twining herb with yellow flowers having a dark purple centre. Stamens terete, pilose with reversed hairs, dark coloured. Leaves alternate, petiolate, exstipulate, ovate-cordate or ovate-hastate, margins usually quite entire, or sometimes lobed, conspicuously apiculate, softly pilose on both surfaces, 3-5 veined, veins and veinlets prominent beneath; 2-4 inches long and wide; petiole 1 to 3 inches long, pilose, dark coloured. Inflorescence axillary, pedunculate, peduncles pubescent, 1 or several flowered, 1 to 5 inches long. Bracts 2, a little below the calyx, lanceolate, 6 to 8 lines long, 3 to 4 lines wide. Calyx 5 parted, the two exterior lobes much the largest, enclosing the others, ovate acute, the next two a little shorter and broadly lanceolate, the other linear-lanceolate the whole calyx 6 to 8 lines long, the lobes subequal in length; finely pubescent and ciliate. Corolla gamopetalous, campanulate, externally pilose, tube short, limb plaited. Stamens 5, on corolla at base, filaments subulate, minutely hairy, purple, white near apex, one quarter as long as corolla; anthers linear, curved, versatile. Style filiform, stigma 2-lobed, lobes oblong. Ovary superior, pilose, 1-celled, 4-ovuled. Capsule globose, pilose, 4-valved, 3-lobed, 1-celled, 2-3 seeded by abortion. Seeds glabrous.

Habitat: NATAL: Inanda, 1,800 feet alt, December, *Wood* No. 788; near Durban, 150 feet alt, January, *Wood*.

A not uncommon plant in the coast districts, found usually at edges of woods and climbing over shrubs. It has hitherto been considered to be the only one of its genus, but a plant gathered by Mr. R. Schlechter in Transvaal is believed to belong to the same genus, but so far as we are aware it has not yet been described, a small specimen given by Mr. Schlechter is in the Colonial Herbarium, but in general appearance it is very different to the plant here described. In "Harvey's Genera of South African Plants" *H. bicolor* appears as *Shutereia bicolor* but the genus *Shutereia* has since been abolished. It is also said to be a native of "sea shores near Natal" but as will be seen we have gathered it at an altitude of 1,800 feet above the sea level. The natives have no specific name for it and do not apply it to any use.

Fig. 1, calyx opened; 2, lower portion of tube showing attachment of stamens; 3, a stamen; 4, disk, ovary style and stigma; 5, fruit about natural size; 6, cross section of same; except fig. 5, all enlarged.



Hewineia bicolor, Wight & Arn.



Clerodendron myricoides, R.Br.

PLATE 282.

CLERODENDRON MYRICOIDES, R. Br. (Fl. Cap. Vol. V., p. 223.)
Natural Order, VERBENACEÆ.

A low shrub, 3 to 6 feet in height, with slender flexuous branches, the bark of the older branches somewhat angled, striate, studded with old leaf scars and lenticels; of younger ones subterete, light coloured. Leaves opposite, or in false whorls, petiolate (in our specimens); membranous, oblong or oblong-acuminate, acute at apex, gradually tapering to a petiole at base, coarsely and irregularly serrate, or inciso-serrate in upper and median portion of the leaf, veins very prominent beneath, plainly marked above, pubescent on both surfaces with short multicellular hairs; $1\frac{1}{2}$ to 4 inches long, $\frac{1}{2}$ to 2 inches broad; petiole puberulous, $\frac{1}{4}$ to $\frac{3}{4}$ inch long. Inflorescence in few flowered cymes, the two lower branches of which are widely divaricate, and with the others form a loose compound panicle, the ultimate branches of which are 1 to 3 flowered, the whole inflorescence terminal on short, axillary leafy branches; common peduncle reaching from 1 to 2 inches long, bracts and bracteoles linear or linear-lanceolate, pubescent $1\frac{1}{2}$ to $3\frac{1}{2}$ lines long, lower ones frequently larger and leafy. Calyx gamosepalous, broadly campanulate, 5-lobed, lobes ovate, spreading, a little longer than tube, thickly covered on upper surface with minute, stalked glandular hairs, minutely pubescent beneath, the whole calyx spreading to 6 to 9 lines in diameter. Corolla gamopetalous, tube short, inflated, curved, villous in throat, otherwise glabrous, 4 to 5 lines long, limb 5-lobed, the 4 upper lobes subequal, oblong, rounded at apex, widely spreading, greenish white, about $\frac{1}{2}$ inch long; the lower lobe obovate, spathulate, concave or spoon-shaped, violet blue. Stamens 4, inserted at base of throat, long exserted, filaments curved, thickened and densely villous in lower portion, anthers ovate, 2-celled, cells parallel. Ovary superior, subglobose, or often obscurely 2-lobed, minutely glandular, 2-celled, cells 2 ovuled; green, style filiform, curved, 2-lobed, lobes slender, acute. Drupe deeply lobed, 2-3 seeded, 5 to 6 lines in diameter.

Habitat: NATAL: Coast and midlands to at least 2,000 feet alt. Inanda, 1,800 feet alt, September, *Wood* No. 657; Umgeni, 150 feet alt, October, *Thode*; Congella, *Sanderson* No. 718; Eshowe, *Mrs. K. Saunders*; near Durban, 200 feet alt, October, *Wood* No. 8324.

A low half rambling shrub, usually found in woods, the leaves are unpleasantly scented when bruised, and the flowers are remarkable for their colouring, four of the corolla lobes being white or greenish white, the other violet blue. I cannot learn the native name, nor do they put it to any use. It is not very common.

Fig. 1, a flower natural size; 2, calyx and young ovary; 3, corolla opened; 4, a stamen, front view; 5, same, back view; 6, ovary, style and stigma; 7, fruit; 8, hairs, simple and glandular; *except fig. 1, all enlarged.*

PLATE 283.

CEPHALANDRA PALMATA, Sond. (Fl. Cap. Vol. 2, p. 493).
Natural Order, CUCURBITACEÆ.

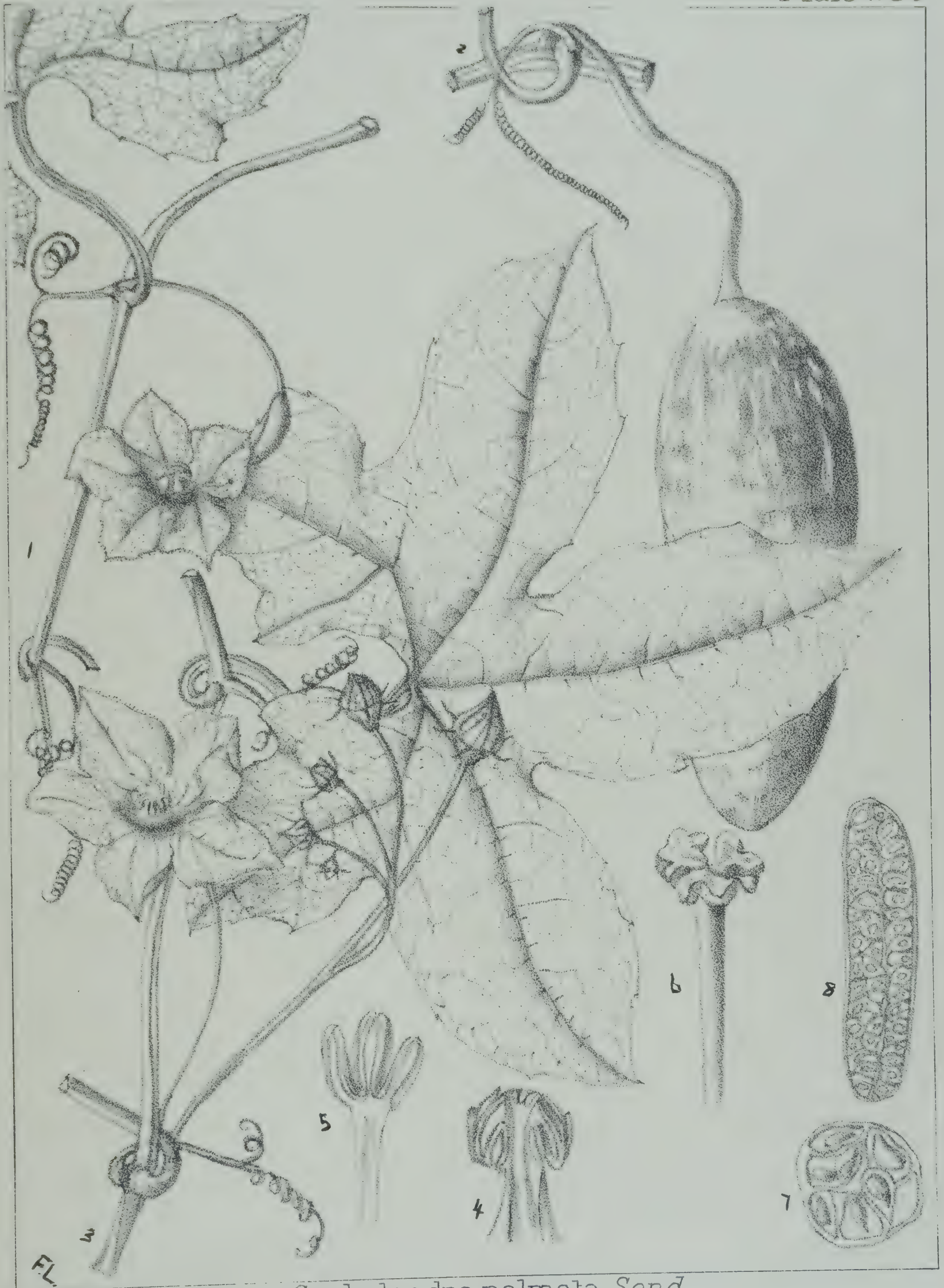
A wide climbing dioecious plant with yellow flowers, all parts glabrous and smooth. Tendrils simple or bifid, spirally twisted. Leaves alternate, petiolate, exstipulate, palmately 5-lobed, 5-veined at base, the central lobe 3 to 5 inches long from base, lateral ones 2 to 3 inches long to sinus, all apiculate, margins sinuous, distantly toothed, the teeth acute, callous; dark green above, lighter and subglaucous beneath, minutely pitted above; petioles furrowed above, $1\frac{1}{2}$ to 3 inches long. Male flowers on peduncles as long or longer than the petioles, terete, solitary or racemose at apex. Calyx gamosepalous, campanulate, 5-toothed, tube 3 to $3\frac{1}{2}$ lines long, greenish yellow, shining, teeth setaceous, distant, green, shorter than tube. Corolla gamopetalous, 5 lobed, widely campanulate, minutely pubescent, $1\frac{1}{2}$ to 2 inches wide, the tube consolidated with the calyx tube, lobes ovate, acute. Stamens 3, inserted on the calyx tube, filaments short, connectives connate at apex forming a subglobose mass; anthers flexuous, two 2-celled, the third 1-celled. Female flowers solitary, peduncles little if any shorter than those of the male flowers. Calyx and corolla as in male, but a little smaller. Stamens none. Staminodes 3, oblong, short. Ovary inferior, linear-oblong, at first 1-celled with prominent revolute parietal placentas, afterwards (by the union of the placentas into a central column, and the adherence of their revolute edges to the walls of the ovary) 6-10 celled; ovules numerous; style with 3, thick, lobed stigmas. Fruit a many seeded, smooth oblong berry, which is bright scarlet when ripe, $2\frac{1}{2}$ to $3\frac{1}{2}$ inches long, $\frac{3}{4}$ to $1\frac{1}{4}$ inch thick. Seed ovate, compressed.

Habitat: NATAL: Coast districts and midlands. Illovo valley, 1,200 feet alt, April, *Wood* No. 1863; near Durban, 150 feet alt, February, *Wood* No. 8446.

This genus according to the *Genera Plantarum* includes 12 to 14 species, of which 3 are found in South Africa, the remainder in Tropical Africa, and Tropical Asia, all of the South African species are found in Natal, the one here described being not uncommon.

A former name for this genus was *Coccinea*, and lately this name has been revived, and the whole of our species included in it, the one under notice being classed as *Coccinea palmata*, Cogn, but I am not able to give the reasons for the change or to say whether or not it has been generally adopted by botanists.

Fig. 1, portion of branch of female plant; 2, same with fruit; 3, portion of branch of male plant with flowers; 4, staminal column; 5, 2-celled stamen; 6, style and stigma; 7, cross section of young fruit; 8, longitudinal section of same; *except Figs 1, 2, 3, 7, 8, all enlarged.*



Cephalandra palmata, Sond.



Aneilema aequinochiale, Kunth.

PLATE 284.

ANEILEMA AEQUINOCTIALE, Kunth. (Fl. Cap. Vol. 7, p. 12.)
Natural Order, COMMELINACEÆ.

An herbaceous plant with yellow flowers. Stems weak, often branched, the branches bursting through the lower part of the false petiole, terete, very finely ribbed, pilose with long white cellular hairs, which are hooked at apex, and spring from a tubercular base; 2 to 8 feet long. Leaves alternate, elliptic or lanceolate to ovato-lanceolate, acute at apex, margins entire, suddenly at base rounded to a short 3-lines broad false petiole which in its lower portion clasps the stem as an entire sheath, and is like it covered with hooked hairs and rough to the touch; the lamina 3 to 6 inches or more long, $\frac{3}{4}$ to 2 inches wide, pubescent and ciliate. Inflorescence terminal, paniculate, with a small bract at each division of the panicle, the flowers alternate on its branches, bracteate, each cup-shaped bract enclosing 1 to 3 flowers, the branches lengthening during flowering, the lowest flowers opening first. Perianth 6-parted in two rows, outer row (sepals) 3, oblong, obtuse, green, subsimilar, 3 to 4 lines long, reflexed; inner row (petals) 3, very unequal, the two larger ones 5 lines long, 4 lines wide, all clawed, yellow, the smaller one 2-3 lines long, 1 to 2 lines wide. Stamens 6, of which 2-3 are fertile, remainder barren; filaments of fertile ones 3 to 4 lines long, one usually much shorter than the others and its anther smaller, finely pilose, yellow; anthers 2-celled, erect; filaments of barren stamens much shorter, with the anther cells separated in a cruciform manner. Ovary superior, usually 2, but sometimes 3-celled, the third cell when present smaller and with fewer ovules or empty, others 3-ovuled. Capsule compressed, truncate, the opposite angles acute, style longer than stamens, glabrous, purple; stigma truncate. Seeds sub-quadrangular, rugose brown.

Habitat: NATAL: Coast and Midlands. Inanda, 1,800 feet alt, April, Wood No. 540; near Durban, Wood.

This genus contains about 60 species, found in the warmer parts of the world, but three only are found in South Africa. The one here described is said to be distributed "throughout Tropical Africa and Arabia." The flowers are yellow in all the specimens collected in Natal, but a specimen collected by Thorncroft No. 265 (Wood No. 4507) had blue flowers according to the collectors' note, and both of these numbers are quoted in the Flora Capensis. The Flora of Tropical Africa says in the description of the species that the petals are "yellow, blue, mauve or lilac" and in a footnote, "There is ample evidence of the variation in the colour of the petals; the different coloured flowers have been esteemed different species by many collectors." In sending Thorncroft's specimen to Kew we were of opinion that it might prove to be a different variety to the one we have here, and it has in fact now been named *A. aequinoctiale* var *Kirkii*. In consequence of the peculiar transparent hairs which thickly clothe the stem and branches, and which are curved to a rounded hook at the apex, the plant is not only harsh to the touch, but clings to the clothing, and doubtless also the skins of passing animals.

Fig. 1, a flower; 2, same, calyx and corolla removed; 3, longitudinal section of same; 4, cross section of same; 5, capsule; 6, seed showing both sides; *all enlarged*.

PLATE 285.

SPHAERALCEA PANNOSA, Bolus (Journ. Linn. Soc. Vol. XXV. p. 156).
Natural Order, MALVACEÆ.

An erect branching shrub, bearing pink flowers, all parts except the petals stellate tomentose. Stems 3 to 5 feet high, branches erect, terete, smooth, light coloured. Leaves alternate, stipulate, petiolate, palmately 3 to 5 lobed, or parted? lobes oblong, upper one much the largest, coarsely and irregularly crenate, apex acute or acuminate, densely incano-tomentose beneath, minutely scabrous and green above, veins and veinlets very prominent beneath, less conspicuously so above, the whole leaf spreading to 8 or 9 inches long and wide, the lowest ones much the largest. Stipules subulate, deciduous, brown, 2 to 3 lines long. Petioles terete, 1 to 6 inches long. Inflorescence axillary and terminal, peduncles 1 to 4 flowered, 1 to $1\frac{3}{4}$ inch long; pedicels 6 to 10 lines long. Epicalyx deeply 3 lobed, externally covered with filiform processes, margin deeply and irregularly toothed; shorter than calyx tube. Calyx 5-cleft, tube campanulate, lobes oblong acuminate, erect, the whole calyx 7 lines long. Petals 5, obovate, glabrous, rosy pink, 9 lines long, 6 to 7 lines wide. Stamens numerous, monadelphous, antheriferous at and below the apex of the staminal column. Ovary many celled, cells 2 to 3 ovuled; styles as many as cells of the ovary; stigmas capitate. Carpels at maturity separating from the axis.

Habitat: NATAL: Upper districts. Near top of Mount Erskine 6-7,000 feet alt, January, *Evans* No. 402; Sevenfontein, 3-4,000 feet alt, March, *Wylie* (*Wood* No. 8100).

Drawn and described from plants in Natal Botanic Gardens, which were reared from seed brought by Mr. Wylie from Sevenfontein.

A handsome shrub with pink flowers, which is well worthy of cultivation, but the plants that have flowered in the Botanic Gardens appear to bear fewer and rather smaller flowers and somewhat larger leaves than is usual in the wild state, probably the climate does not suit the plant. It appears to be plentiful in East Griqualand and was originally described by Mr. Bolus from numerous dried specimens gathered by Mr. W. Tyson in that locality. The genus contains about 26 species, chiefly natives of the warmer parts of America, 5 are found in South Africa, but *S. pannosa* is the only one that reaches Natal.

Fig. 1, calyx and epicalyx; 2, flower, calyx and corolla removed; 3, staminal column opened; 4, ovary, style and stigma; *all enlarged*.



Sphaeralcea pannosa, Bolus.



Vitis hypoleuca, Harv.

PLATE 286.

VITIS HYPOLEUCA, Harv. (*Cissus hypoleuca* Fl. Cap. Cap. Vol. 1, p. 252).
Natural Order, AMPELIDÆ.

A weak climbing plant with yellow flowers. Stems terete, pubescent, wide climbing; tendrils forked. Leaves alternate, petiolate, stipulate, pedate; petioles subterete, swollen, and a little curved at base; $1\frac{1}{2}$ to 2 inches long; stipules broad-based, strongly falcate. Leaflets 5, petiolate, uppermost one longest, two lateral ones smaller and spreading, 2 lower smallest, deflexed; ovate to ovato-oblong, bluntly serrate and sub-mucronate, glabrous, dark green and shining above with strongly marked and sunk veins and veinlets, pale and densely tomentose beneath, veins and veinlets very prominent; upper one $2\frac{1}{2}$ to $3\frac{1}{4}$ inches long, $1\frac{1}{2}$ to $2\frac{1}{2}$ inches wide, lateral ones 2 to $3\frac{1}{2}$ inches long, $1\frac{1}{4}$ to $3\frac{1}{4}$ wide, lowest ones 1 to $2\frac{1}{2}$ inches long, $\frac{3}{4}$ to $1\frac{1}{2}$ wide; petioles ribbed above, 2 to 4 lines long. Inflorescence cymose, axillary, flat topped, diffuse with spreading branches, peduncles axillary, $1\frac{1}{2}$ to 3 lines long, pubescent. Calyx cupshaped, obsoletely crenate, pubescent. Petals 4-5, inserted outside the disk, hooded, strongly reflexed, pubescent, deciduous. Stamens 4-5, inserted with the petals and opposite to them, filaments erect, longer than styles, pink towards apex; anthers 2-celled, introrse. Disk 4-5 lobed, lobes white below, yellow at apex. Ovary superior, surrounded by lobes of the disk, 2-celled, cells 2-ovuled; style 1, cylindrical; stigma truncate, pink. Fruit a globose berry usually 1-seeded by abortion; 4 to 5 lines diameter, densely tomentose.

Habitat: NATAL: Near Durban, 150 feet alt, December, Wood No. 4086; March, No. 8448, and without locality *Gueinzus*.

Drawn and described from Wood's No. 8448.

In the Flora Capensis, Vol. 1 page 252, this plant is described as *Cissus hypoleuca*, Harv., but the genus *Cissus* is now abolished, there being no generic difference between it and the older genus *Vitis*. This genus which includes the different species of Grape Vines contains according to the Genera Plantarum some 230 species of which we have in Natal 16 to 18, the fruits of two only of them are known to be edible and are sometimes used for preserving. The above described species is not uncommon in coast districts, and is also found in the midlands, it is of no economic value, though the natives use a decoction of the stems as a cattle medicine, and call the plant u-Degane.

Fig. 1, flower with one corolla lobe and one stamen removed; 2, calyx; 3, corolla lobe; 4, stamen; 5, disk, style and stigma; 6, cross section of ovary; all enlarged.

PLATE 287.

INDIGOFERA ARRECTA, Hochst. (Fl. Trop. Africa, Vol. 2, p. 97).
Natural Order, LEGUMINOSÆ.

An erect much branched undershrub reaching to 6 feet or more in height, with yellow-green flowers which are more or less tinged with pink; strigillose in all parts. Stems terete or slightly furrowed; branches erect, terete. Leaves alternate, stipulate, unequally pinnate; common petioles with rhachis $2\frac{1}{2}$ to $3\frac{1}{2}$ inches long, swollen at base. Stipules subulate, small. Leaflets in 5 to 8 opposite pairs with a terminal one, oblong, cuneate at base, minutely papillose above, strigillose beneath, 5 to 8 lines long; petiolules 1 line long. Inflorescence axillary, racemose, racemes reaching to $1\frac{1}{4}$ inch long, 6 to 30 flowered; pedicels a little longer than the calyx. Calyx campanulate, 5-toothed, two upper teeth deltoid, the lower three lanceolate, all minute, the whole calyx about $\frac{1}{2}$ line long. Corolla papilionaceous, externally strigillose, 2 lines long, vexillum ovate, tinged with pink outside, alæ oblong, red, carina hooded, spurred on each side, yellow-green slightly tinged with pink. Style curved, stigma capitate. Legume deflexed, linear mucronate, $\frac{1}{2}$ to 1 line long, 5 to 8 seeded.

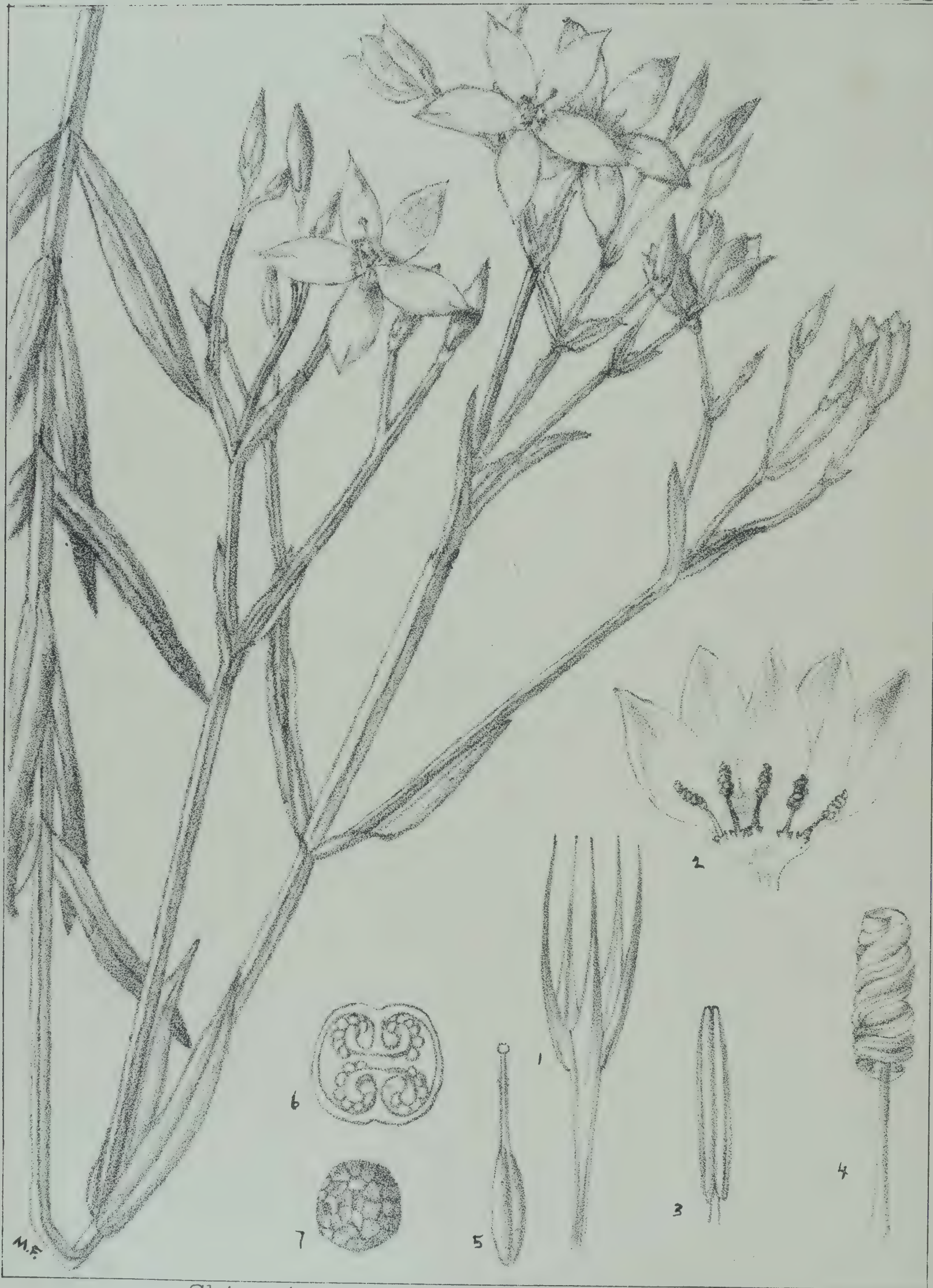
Habitat: NATAL: Coast and midlands. Berea, 500 feet alt, March, Wood No. 8216; New Guelderland, *Colenbrander*.

This is the plant known to the natives as um-Pegembetu, and used by them for staining blue, and it is the same species from which indigo was manufactured at Pinetown many years ago by Messrs. Van Prehn & Murray, Mr. Van Prehn returned to Java taking with him seeds of the plant, and further supplies have been sent to Java and perhaps to other places also since that time. It is quite different to the plant described as *Indigofera arrecta*, Benth in Vol. 2, p. 183, of Flora Capensis, which plant will now have to take another name. We are indebted to Dr. Prain, Director of the Royal Botanic Gardens, Calcutta, who on his last visit to England took considerable pains to identify this plant, which he did from specimens sent from the Colonial Herbarium, in the course of his investigations he found that the names had been very much confused, and that the name now given is undoubtedly the correct one. It is described in the Flora of Tropical Africa, but some slight differences will be found between this description and the one there given, especially as to the number of flowers in the raceme, and their colour. It is, we understand, one of the best if not the best of the species for the manufacture of indigo, and it appears to be found almost all over Africa.

Fig. 1, raceme; 2, flower; 3, calyx; 4, vexillum; 5, alæ; 6, carina; 7, flower, corolla removed; all variously enlarged.



Indigofera arrecta, Hochst.



Chironia purpurascens, Benth & Hook.

PLATE 288.

CHIRONIA PURPURASCENS, Benth & Hook. (Gen. II. 805).
Natural Order, GENTIANEÆ.

Herbaceous, with deep pink flowers. Roots fibrous. Stems erect, branching in upper portion, quadrangular, glabrous. Leaves, lower opposite, sessile, exstipulate, linear-oblong, tapering to a subacute apex, glabrous, margins entire, 2 to 3 inches long, 3 to 5 lines wide, upper ones smaller, linear. Inflorescence in terminal and axillary laxly flowered cymes, the ultimate divisions of which are 1 to 3-flowered. Calyx deeply 5-fid, tube cup-shaped, lobes acuminate, keeled, erect, the whole calyx 4 to 5 lines long. Corolla rotate, expanding to 1 inch diameter, twisted in bud, persistent, tubes short, lobes 5, oblong, acute, spreading. Stamens 5, on throat of corolla, alternate with its lobes, filaments one-third as long as lobes of corolla, and with a small scale on each side at base; anthers 2-celled, straight in bud, afterwards strongly twisted, opening outwards. Ovary superior, oblong, glabrous, furrowed on opposite sides, 1-celled, placentas 2-fid, ovules many. Style cylindrical, elongate, stigma globose. Capsule dry, 2-valved. Seeds numerous, subglobose, deeply pitted.

Habitat: NATAL: Coast districts, Clairmont 50 feet alt., October, *Wood* No. 1,154; Umlaas, March, *Wood* No. 876; Umkwahumbi, April, *Wood*.

Drawn and described from specimens gathered near Durban, March, 1902.

This genus includes about 26 species, all natives of South Africa except two, which are found in Madagascar, and one whose native country is not certainly known, some of them like the one here described are well worth cultivation, and several have been introduced into Europe, the flowers of most, if not of all, of the species are pink or purplish. This plant was formerly known as *Plocandra purpurascens*, E.M., the generic name having been given on account of the peculiarly twisted anthers, but the genus *Plocandra* is now merged in *Chironia*.

Fig. 1, calyx; 2, corolla opened; 3, young stamen; 4, mature stamen; 5, ovary, style and stigma; 6, cross section of ovary; 7, seed; *all enlarged*.

PLATE 289.

LUFFA SPHÆRICA, Sond. (Fl. Cap., Vol. 2, p. 490).

Natural Order, CUCURBITACEÆ.

A dioecious climbing plant with large white flowers. Stems sulcate, minutely pubescent. Leaves alternate, petiolate, palmately 3 to 5-lobed, central lobe largest, all again regularly toothed, the teeth mucronate, 5 to 7 inches long and wide, veins very prominent beneath, scarcely so above, minutely scabrous and dark green on upper surface, lighter coloured and minutely pubescent beneath; petiole $\frac{3}{4}$ to $1\frac{1}{2}$ inch long, with 2 conical acute glands at its junction with the lamina. Tendrils, bifid. Inflorescence axillary, peduncles shorter than the leaves, the male peduncles 2 to 8-flowered, females solitary. Male flowers; calyx campanulate, spreading to 6 lines wide, 5-toothed the teeth subulate and variously glandular. Corolla 5 lobed, inserted at mouth of calyx, $1\frac{1}{4}$ to $1\frac{1}{2}$ inch long, lobes oblong or obovate, white, strongly veiny, the veins green; pubescent on both surfaces. Stamens 3, free, inserted with the corolla; filaments short; anthers sinuous, two 2-celled, one 1-celled, ovary none. Female flowers; calyx and corolla as in male, but teeth of calyx more glandular, and corolla lobes a little larger; stamens none. Ovary inferior, subglobose; style cylindrical, $\frac{1}{2}$ inch long; stigmas 3, each 2 lobed. Fruit an indehiscent pepo, with thick hard pericarp, dark green, marbled and spotted, subglobose, $2\frac{1}{2}$ to $3\frac{1}{2}$ inches diameter.

Habitat: NATAL: Near Durban, 150 feet alt, June, *Wood* No. 3269; near Durban, March, *Wood*.

Not an uncommon plant at edges of woods and climbing over shrubs in coast districts, its large white flowers being very conspicuous. The large fibrous seed-vessels of one or more species are known as "Loofahs," and are often met with in commerce.

Fig. 1, female flower; 2, style and stigma; 3, stamen with 2-celled anther; 4, stamen with 1-celled anther; *all enlarged*.



Luffa sphaerica, Sond.



Eucomis punctata, L'Herit.

PLATE 290.

EUCOMIS PUNCTATA, L'Herit. (Fl. Cap. Vol. 6, p. 475).
Natural Order, LILIACEÆ.

A bulbous plant with raceme of greenish-white, purple edged flowers. Bulb globose, or ovoid, tunicate, 2 to 3 inches diameter. Leaves 6 or more, oblanceolate, at length 6 to 12 inches long in our specimens, 2 to 3 inches broad in centre, entire, obtuse, with recurved mucro, green, purple spotted from base to near apex, not undulated, glabrous. Inflorescence racemose, crowned with a tuft of leaves at apex. Peduncle terete, 8 to 12 inches long, cylindrical, spotted and broadly lined with purple. Raceme laxly many flowered, the floriferous portion 2 to 3 inches long at apex of peduncle which is crowned by a rosette of about 20 or more oblong or obovate leafy bracts which are green, margined with purple. Pedicels patent, finally reflexed; bracts; lower ovate, upper oblong, acute, membranous, 4 to 5 lines long. Perianth 6-parted nearly to base, its lobes erect, oblong, obtuse, greenish white, margined with purple, 1-nerved. Stamens 6, opposite perianth segments, and attached to them at base, included; filaments lanceolate-deltoid, whitish at base, purple upwards, connate at base; anthers small, oblong, 2-celled, versatile. Ovary sessile, 3-lobed, 3-celled, many ovuled; style cylindrical, equaling stamens; stigma obtuse. Capsule not seen.

Habitat: NATAL: Upper districts.

Drawn and described from a specimen brought by Mr. Wylie from edge of wood near Bulwer in 1901, and grown in Botanic Gardens, flowering in March, 1902.

The above described plant belongs to a genus containing 9 species only, 8 of which are South African, and the other a native of the highlands of Central Africa, and of these six are known to inhabit Natal, all are remarkable for the coma or crown of leafy bracts which terminate the peduncle. The species here described agrees better with *E. humilis* than with any other species described in the Flora Capensis, but differs from it in the bracts which better agree with those of *E. punctata*, and in the leaves which in our specimens are scarcely undulate. The different species of *Eucomis* are very ornamental, and are often seen in cultivation, and one or more of them are used medicinally by the natives.

Flowering scape and leaf, natural size. Fig. 1, plant reduced; 2, perianth opened; 3, ovary style and stigma; 4, cross section of ovary; *all enlarged*.

PLATE 291.

CROTALARIA LANCEOLATA, E. Mey. (Fl. Cap. Vol. 2, p. 43).
Natural Order, LEGUMINOSÆ.

An erect branching undershrub with yellow purple lined flowers; 1 to $2\frac{1}{2}$ feet high. Stem and branches angular, striate, green, minutely pubescent. Leaves alternate, exstipulate, trifoliate, petioles 1 to 2 inches long, terete, swollen at base, furrowed above; leaflets lanceolate to oblong-lanceolate, acute or obtuse, mucronate, tapering at base to a very short petiole, margins quite entire, minutely ciliate, veins prominent beneath, glabrous above, minutely pubescent beneath with short adpressed hairs; 2 to $3\frac{1}{2}$ inches long, $\frac{1}{2}$ to $\frac{3}{4}$ inch wide in centre; petiolules 1 line long, thickened, puberulous. Racemes terminal, elongate, floriferous for three quarters of their length. Calyx gamosepalous, unequally 5-toothed, 10-veined, conical or intruse at base, tube cup-shaped, teeth acute, less than half as long as tube, the whole calyx $1\frac{1}{2}$ line long. Bracts minute. Corolla papilionaceous, vexillum suborbicular, emarginate, strongly reflexed, yellow above, yellow and purple lined beneath; alae oblong, obtuse, yellow with purple lines and blotch at base, longer than carina; carina falcate, green with purple lines. Stamens 10, monadelphous, filaments filiform; anthers 5, linear-oblong and 5 ovate, all 2-celled. Ovary superior, pubescent; style strongly curved, laterally pubescent; stigma globose. Legume strongly deflexed, turgid with convex valves, pubescent, on a stipes 3 lines long, dorsal suture deeply indented, minutely incurved at apex, and tipped with remains of style; $1\frac{1}{4}$ to $1\frac{1}{2}$ inch long, 2 to 3 lines wide.

Habitat: NATAL: Grassy hill, Inanda, 1,800 feet alt, Wood No. 99; in similar situations near Durban, 250 feet alt, March, Wood No. 8450.

Drawn and described from a specimen gathered on the Berea near Durban, 150 feet alt, March, 1902.

A small branching plant "with the habit of a Lupin," bearing flowers which are yellow lined with purple, it is apparently confined to South Africa, and the only locality given for it in the Flora Capensis is Natal. So far as known to us it has no economic value and the natives have no specific name for it.

Fig. 1, flower; 2, calyx opened; 3, vexillum; 4, ala; 5, carina; 6, staminal tube opened; 7, ovary, style and stigma; 8, legume, *natural size*; except fig. 8, *all enlarged*.



Crootalaria lanceolata, E.M.



Aloe Kraussii, Baker.

PLATE 292.

ALOE KRAUSSII, Baker (Fl. Cap. Vol. 6, p. 306).
Natural Order, LILIACEÆ.

A small stemless plant with pale yellow flowers. Leaves 6 to 8, erect, distichous, linear acuminate, 1 to 2 feet long, $\frac{1}{2}$ inch broad at base, thick and somewhat fleshy, concave and spotted with pale oblong markings in lower portion, margin distantly and obscurely denticulate. Peduncle simple, 6 to 15 inches long, with many empty, oblong-deltoid, acuminate, veiny and scarious bracts and swellings at nodes; floriferous in upper portion only. Inflorescence corymbose 12 to 30 or more flowered; pedicels $\frac{1}{2}$ to $\frac{3}{4}$ inch long, terete, swollen above, lower ones deflexed, bracts lanceolate, purple veined, 7 to 9 lines long. Perianth straight, 6-parted in two rows, outer row of 3 oblong, obtuse segments imbricated and enclosing the inner ones, concave, subcoriaceous, indistinctly 3-veined; pale yellow with brownish tips, inner 3 narrower and more delicate in texture and colouring, the 3 veins forming a band in centre of the segment. Stamens 6, included, filaments filiform, anthers similar, ovate, 2-celled, dorsifixed. Ovary superior, sessile, 3-angled, the angles rounded, 3-celled, cells many ovuled, ovules superposed. Capsule not seen.

Habitat: NATAL: Coast and midlands; Camperdown, 2 to 3,000 feet alt, *Wood* No. 1959; near Durban, 150 feet alt, March, *Wood* No. 8449. Also found in Transvaal and Swaziland.

Drawn and described from *Wood's* No. 8449.

One of the smallest of the Natal Aloes, usually found in open ground, and flowering during the summer, it is of no economic value, and the natives have no distinctive name for it so far as we can learn.

Fig. 1, flower with bract; 2, perianth lobe and stamen; 3, ovary, style and stigma; 4, bract; *all enlarged*.

PLATE 293.

TRICALYSIA SONDERIANA, Hiern. (Fl. Trop. Africa, Vol. 3 p. 119).
Natural Order, RUBIACEÆ.

A branching shrub with white flowers, 6 to 10 feet high. Branches greyish white, younger portions minutely pubescent, subangular, furrowed alternately on two opposite sides, or terete. Leaves opposite, petiolate, stipulate, coriaceous, glabrous, oblong to oblong-ovate or narrow-oblong, tapering to an obtuse apex, and more gradually to the short petiole, margins quite entire, slightly recurved, veins not conspicuous; 2 to 3 inches long, $\frac{3}{4}$ to $1\frac{1}{4}$ inch broad; petioles thickened, 1 to 2 lines long; stipules connate at base in a cup, then subulate. Inflorescence axillary, cymose, cymes 3 to 8 flowered, much shorter than the leaves. Peduncles very short, pedicels 3 to 5 lines long. Bracts scarious; bracteoles 2, small, alternate on the pedicel. Calyx gamosepalous, campanulate, 5-fid, teeth subacute; the whole calyx about 1 line long, glabrous. Corolla gamopetalous, 5-lobed, tube cylindrical, widening a little upwards, very densely hairy at throat; 2 to 3 lines long, lobes often very strongly reflexed, equalling tube. Stamens 5, in throat of corolla, alternate with its lobes, exserted from throat, shorter than lobes; filaments short, anthers linear-oblong, 2 celled, the connective produced beyond the cells into a tongue-shaped process. Ovary inferior, 2-celled, cells 1-ovuled; style elongate, stigma 2-lobed, lobes revolute, much shorter than style. Berry globose, crowned with remains of the calyx, green, black when ripe, glabrous, the size of a pea, 2-seeded.

Habitat: NATAL: Coast districts; near Durban, 150 feet alt, *Wood* No. 1091; also near Durban, October, *Wood* in Colonial Herbarium, No. 7462.

Drawn and described from specimens gathered near Durban, April, 1902.

In the *Flora Capensis*, Vol. 2, pages 22 and 23, four species of the genus *Kraussia* are described; since that time two of them have been removed to other genera, *K. pavettoides* being placed with *Webera*, and *K. coriacea*, the plant here described with *Tricalysia*. It is a shrub reaching to 8 or 10 feet in height, and bears its flowers in great abundance. No part of the plant is used in any way either by natives or Europeans, so far as known to us. It is also found in Tropical Africa.

Fig. 1, flower; 2, corolla opened showing stamens; 3, a stamen; 4, pedicel, calyx style and stigma; 5, cross section of ovary; *all enlarged*.



Tricalysia Sonderiana, Hiern.



Aneilema sinicum, R.Br.

PLATE 294.

ANEILEMA SINICUM, R. Br. (Fl. Cap. Vol. VII., p. 12.)
Natural Order, COMMELINACEÆ.

Roots fibrous "thick and occasionally tuber-bearing." Stems erect, 1 to 3 feet long, sparingly leafy, finely striate and pilose below the sheaths. Leaves few, 2 to 4, linear or linear-oblong, sheathing at base, the sheaths pilose with long white hairs, base of leaf also ciliate with similar hairs, surfaces glabrous; basal leaves 2 to 4 inches long, 3 to 5 lines wide in centre, cauline ones, few, 1 to 2, much smaller. Inflorescence a loose few flowered panicle with elongated lower branches which are closely scarred for $\frac{1}{4}$ inch or more below the lowest flowers "where the numerous infertile flowers have fallen." Sepals 3, oblong, greenish, 3 lines long, of thin texture. Petals 3, pale lilac, obovate, spreading. Stamens 6, of which 2 or 3 only are fertile, the remainder smaller and barren. Filaments of the fertile stamens longer than the others and pilose with long moniliform hairs, of the sterile ones short, one occasionally much shorter than the others, or scarcely developed; anthers of fertile stamens linear-oblong, versatile, dark coloured, of the barren ones 3-lobed, yellow, and without pollen. Ovary 3-celled, cells 2-ovuled, ovules superposed, one only usually fertile. Capsule papery, milky juice, seeds white, small.

Habitat: NATAL: Near Tugela River, 150 feet alt, *Wood* 3854; near Nonoti River, 500 feet alt, *Wood*; Zululand, *Mrs. McKenzie*, and without precise locality, *Gerrard*, 1483.

Drawn and described from specimens growing in Botanic Gardens, Durban, raised from seed which was brought from near Nonoti.

A rather pretty plant, rare in Natal since so far as known to us it has only been gathered in the localities quoted, which are only a few miles from each other, *Gerrard's* plant having most likely been gathered in the same locality, which is only a short distance from the sea side. It does not appear to be known to the natives as distinguished from other species of *Aneilema* or *Commelina*, and it is of no known economic value.

Fig. 1, flower; 2, same, petals removed; 3, ovary and sepals; 4, longitudinal section of ovary; 5, cross section of same; 6, moniliform hair of filament; *all enlarged*.

PLATE 295.

LORANTHUS QUINQUENERVIUS, Hochst. (Fl. Cap. Vol. 2, p. 578).
Natural Order, LORANTHACEÆ.

A parasitical shrub with scarlet and white flowers. Bark ashen grey, green in younger portions, smooth and glabrous. Leaves alternate, petiolate, exstipulate, glabrous, ovate to sub-rotund, coriaceous, veins immersed, but in the older specimens plainly seen to be 3 to 5-veined at base, margins quite entire, often recurved at base; 1 to 4 inches long, 1 to $2\frac{3}{4}$ inches wide. Inflorescence axillary, or scattered on the branches, umbellate, umbels sessile, or subsessile, 2 to 5 or more flowered, flowers pedicelled; pedicels $\frac{1}{2}$ to 1 line long. Calyx gamosepalous, truncate, seated in an obliquely truncate cup-shaped bract. Corolla gamopetalous, inflated, and pinky white at base, then constricted and subcylindrical to the obtuse apex, and a little swollen in the centre, lower part of the central portion bright scarlet, then pinky white to where the stamens are inserted, then another band of white, remainder scarlet; splitting to the middle when opening to 5 very narrow linear lobes. Stamens 5, on corolla lobes, one third down from apex; filaments slender, 2 to $2\frac{1}{2}$ lines long; anthers linear, basifixed, $1\frac{1}{2}$ -line long, 2-celled, in bud closely cohering round the style just below the stigma. Style filiform, in the opened flower equalling the corolla lobes; stigma globose. Ovary inferior, 1-celled, 1-seeded. Fruit not seen.

Habitat: NATAL: Near Durban, 150 feet alt, April, Colonial Herbarium, Nos. 219 and 1653; also in same locality, *Wood* No. 8451.

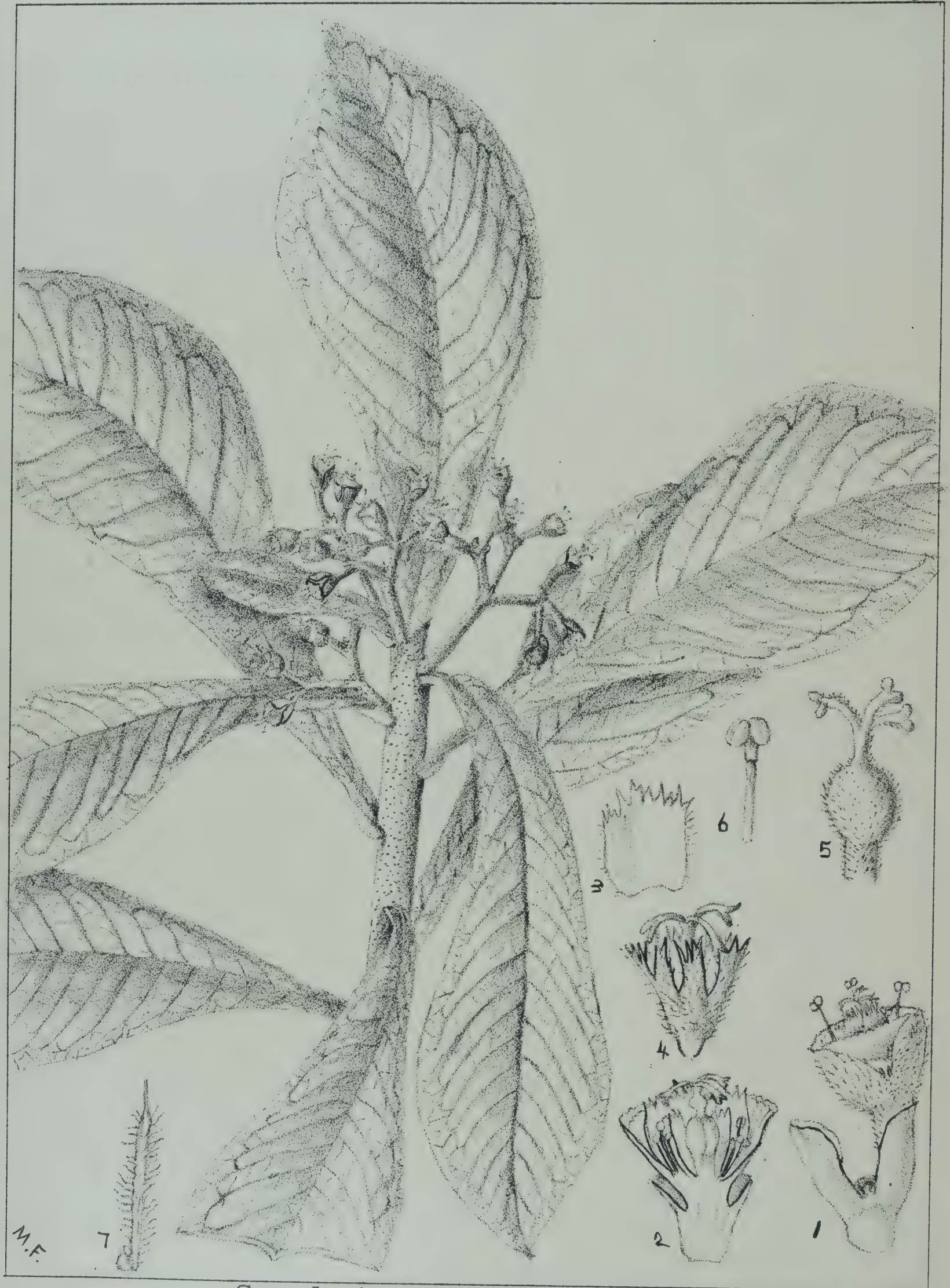
Drawn and described from *Wood's* No. 8451.

One of the prettiest of the Natal species of *Loranthus*, it is not uncommon in the coast districts, but whether it is found in other parts of S. Africa we have no knowledge at present. The flowers are much more slender than in any other species of the genus found in South Africa, and the markings of the corolla are rather singular. The manner in which the species of *Loranthus* are fertilised by birds is described in *Natal Plants*, Vol. I, Plate 76 under *L. Kraussianus*, and the berries are similarly used for making bird lime.

Fig. 1, mature bud; 2, flower opened; 3, calyx and bract; *all enlarged*.



Loranthus quinquenervius, Hochst.



Synadenium arborescens, Boiss.

PLATE 296.

SYNADENIUM ARBORESCENS, Boiss. (Bth. & Hook, f. Gen. Plant. Vol. VIII., p. 261).
Natural Order, EUPHORBIACEÆ.

A glabrous succulent shrub four feet high, with spreading terete branches; branchlets nearly as thick as the little finger, bluish green speckled with white, tips obtuse. Leaves towards the tips of the branches, 3 to $3\frac{1}{2}$ inches long, spreading and drooping, subsessile, fleshy, cuneately obovate, apiculate, obscurely crenulate, very dark green and shining above with spreading nerves and reticulate nervules, pale blue-green, and quite smooth beneath, with a strong midrib and no visible nerves. Cymes in the axils of the uppermost leaves and about half their length, di-trichotomously branched; peduncle $\frac{1}{2}$ to $\frac{3}{4}$ inch long, as thick as a small goosequill, dark green speckled with white like branches, glabrous; pedicels $\frac{1}{4}$ inch long, puberulous; bracts at the forks and base of the involucre, opposite, quadrate, concave, puberulous, as long as the involucre, all pale green. Involucre $\frac{1}{4}$ to $\frac{1}{3}$ inch diameter, yellow, formed of 5, membranous hyaline quadrate scales with lacerate tips, connate at the base, and seated in a fleshy hemispheric cup which is crenulate on the margin within (this cup answers to the large glands on the involucre of Euphorbia which are here confluent). Male flowers (each of a single stipitate stamen) numerous, in 5 fascicles opposite the involucreal scales, mixed with linear, hairy, lacerate bracteoles. Female flower a stipitate trigonous pistil (often imperfect) in the centre of the involucre, with a short style swollen in the middle, and 3 diverging stigmas, each forked at the tip.

Habitat: NATAL: Rocky slope, Inanda, under slight shade, 1,800 feet alt, *Wood*; edge of wood, Lower Umzimkulu, 500 feet alt, *Wood*.

Drawn and the description compared with plants growing in Botanic Gardens, Durban, but not cultivated, probably planted by a former Curator.

The above description is copied verbatim from the Botanical Magazine, Plate 7184, published in 1892, and the figures 1, 2, 3, 4, and 6 are also copied from the plate, figs. 5 and 7 being added. The only differences we observe are, that in our specimens the leaves are not all crenulate, the cymes are rather less than $\frac{1}{3}$ the length of the leaves, and the style is not always swollen in the middle.

We have ventured to figure this plant again as the Botanical Magazine in which it is described by Sir J. Hooker is seldom, if at all seen by Natal colonists, while the plant itself is one to be very carefully avoided. It is known to the natives as Undhlebe or Umbulele, and is reputed to be very poisonous, fabulous stories are told of it by the natives, such as that it will strike a man dead if he approaches it too closely unless provided with the antidote, with which the mouth is to be filled, and the mixture forcibly ejected in the direction of the plant, also that underneath the plant the ground is white with the bones of animals that have been killed by it, but though the writer has several times seen the plant in its natural habitat, perhaps on account of his defective vision the bones were not visible. Certain, however, it is that the plant must be handled very cautiously when met with, since the writer when gathering specimens for the Herbarium and distribution, after taking the precaution of covering his face, keeping at arms length from the plant, and carefully washing hands and face as soon as the specimens were disposed of, has felt the effects on the eyelids, nostrils, and lips for several hours afterwards.

Fig. 1, Branch of cyme with two bracts at the fork, and an involucre with its 2 bracts; 2, vertical section of involucre, showing the cup, the involucreal scale, male and female flowers; 3, scale of involucre; 4, involucre with the cup removed; 5, ovary, style and stigma; 6, male flower; 7, linear bracteole; *all enlarged*.

PLATE 297.

BARLERIA OBTUSA, Nees. (Fl. Cap. Vol. V., Part 1, p. 52).
Natural Order, ACANTHACEÆ.

A very variable plant so far as size is concerned, sometimes only a foot or more high, at others, especially at edges of woods and climbing amongst the undershrubs reaching to 6 feet or more in length, and with leaves and internodes proportionally larger and longer. Stem and branches more or less ribbed, hairy. Leaves opposite, petiolate, exstipulate, very variable in size, ovate or elliptic, acute or acuminate, tapering at base, margins entire, pubescent on both surfaces; petioles varying in length from 0 to $\frac{3}{4}$ inch, pilose. Cymes axillary, few flowered, "often monopodial," bracteoles linear, 2 to 4 lines long, usually recurved. Calyx gamosepalous, 4-parted, two outer segments enclosing the others, oblong, obtuse, veiny, pubescent and ciliate, reaching to 8 lines long and 4 lines wide; inner segments narrowly oblong, acuminate, pubescent and ciliate, 2 to 3 lines long, 1 line wide. Corolla gamopetalous, funnel-shaped, 5-lobed, blue, tube cylindrical widening gradually to throat, internally dark lined, limb unequally 5-lobed, the three larger lobes obovate, two smaller oblong, the whole corolla (in our specimens) spreading to $1\frac{1}{2}$ inch. Stamens 2 perfect and 3 short rudimentary ones half way down the corolla tube, the perfect ones equalling the corolla in length; filaments filiform, white; anthers 2-celled, black, not spurred. Ovary oblong, seated on a cupular disk, finely pilose near the apex, 2-celled, cells 2-ovuled; style filiform, stigma unequally lobed, purple. Capsule ellipsoid, strongly compressed, glabrous and shining, 4-seeded, seeds hairy.

Habitat: NATAL: All over the Colony from near the sea to at least 3-4,000 feet alt. It has been gathered by numerous collectors both in Natal, Cape Colony, Orange River Colony and Transvaal, also in Tropical Africa.

Drawn and described from specimens gathered near Durban, March, 1902.

A rather variable plant, especially in size of leaves and habit. The blue flowers are very handsome, especially in the larger varieties. It is usually found at edges of woods straggling amongst the undergrowth and flowering towards the close of the season. It is of no economic value, nor can we ascertain the native name.

Fig. 1, calyx with one sepal removed; 2, corolla opened; 3, disk, ovary, style and stigma; all enlarged.



Barleria obhusa, Nees.



Hypoesles antennifera, S. Moore.

PLATE 298.

HYPOESTES ANTENNIFERA, S. Moore (Fl. Cap. Vol. V., Part 1, p. 87).
Natural Order, ACANTHACEÆ.

An erect much branched undershrub, flowers deep pink with purple markings. Stem and branches sub-quadrangular with rounded angles and furrowed sides, swollen at nodes, pubescent. Leaves opposite, petiolate, exstipulate, ovate, gradually tapering to apex, more suddenly so to base, veins conspicuous on both surfaces, prominent beneath, margins entire, somewhat undulate, softly pubescent on both surfaces; 3 to 5 inches long, 2 to 2½ inches wide; petioles pubescent, channelled above, 1 to 1½ inch long. Inflorescence cymose, axillary and terminal. Bracts 2, subulate, pilose on the narrowed portion, the uppermost hairs glandular; 5 lines long; bracteoles 2, shorter than bracts, lanceolate with membranous edges, enclosing one perfect flower with rudiment of a second. Calyx much smaller than the bracts, 5-lobed, the lobes divided nearly to base, linear-lanceolate, hyaline. Corolla gamopetalous, 2-lobed, resupinate, front lobe outermost in bud, tube compressed, gradually widening and much compressed at throat, lobes a little shorter than tube, both strongly recurved, the front lobe 3-fid, the teeth rounded, blotched and spotted with purple markings; lower entire, acute, pink. Stamens 2, on corolla at throat, filaments filiform, pink; anthers 1-celled, muticous. Ovary superior, seated on a cupular disk, 2-celled, cells 2-ovuled. Capsule ½ inch long, glabrous, 2 or 4-seeded, seeds glabrous.

Habitat: NATAL: Without precise locality, *Plant* 99; *Gerrard* 10; *Grant*. Also Kaffraria, Orange River Colony and Pondoland.

Drawn and described from specimens gathered near Durban, April, 1902.

This plant abounds in the coast and midland districts, and was by us until the publication of Part 1, Vol. V. of the *Flora Capensis* always considered to be *H. aristata*, R. Br., and Wood's No. 2, which is identical with the plant here described was many years ago so named at Kew, and a large number of specimens have been sent away under that name from the Government Herbarium. It is at once distinguished from *H. aristata* by the size of its leaves. The only specimen of the true *H. aristata* quoted in the *Flora Capensis* as having been gathered in Natal is Wood's No. 6022 from the top of the Drakensberg near De Beer's Pass. The native name of *A. antennifera* is u-Hlonyane, and the leaves are used to make poultices for affections of the eye.

Fig. 1, flower; 2, calyx opened; 3, corolla opened; 4, disk, ovary, style and stigma; 5, portion of filament and anther; *all enlarged*.

PLATE 299.

MORÆA IRIDIROIDES, Linn. (Fl. Cap. Vol. VI., p. 25).
Natural Order, IRIDEÆ.

A perennial plant growing in dense clumps and bearing flowers which are white with orange-brown and violet markings. Rhizome short creeping. Leaves in crowded fan-shaped basal rosettes, equitant, dark green, rigid in texture, quite glabrous, erect broadly linear; 2 to 4 feet long, $\frac{1}{2}$ to $\frac{3}{4}$ inch broad. Flowering stems equalling or exceeding the leaves in height, erect, with many short, sheathing lanceolate rudimentary leaves, one at each node, the lowest longest, gradually becoming shorter upwards; sometimes branching below the apex. Spathes cylindrical, enclosing 3 or more flowers; valves 2, green, very rigid, outer one smaller, both rounded at apex. Perianth 6-parted, spreading, fringed at apex, the 3 outer segments white with orange-yellow keel, and markings near the base, where the keel is very densely pilose; $1\frac{3}{4}$ to 2 inches long, 1 to $1\frac{1}{4}$ inch wide in centre; 3 inner ones narrower with brownish yellow markings and whitish hairs at base of claw; $1\frac{1}{2}$ to 2 inches long, $\frac{3}{4}$ to 1 inch wide in centre. Ovary cylindrical, 8 lines long. Style and filaments joined in a tube at base, the free portion of the filaments very short, anthers linear, 2-celled, opening outwards; stigmas 3, petaloid and crested, the crests lanceolate, erecto-patent, deeply bi-fid, with broad violet central band; exceeding 1 inch in length, 4 to 5 lines wide in centre. Capsule ellipsoid, loculicidal, obtusely angled, 1 to $1\frac{1}{2}$ inch long. Seeds black, glabrous, angled by pressure.

Habitat: NATAL: Groenberg, 2,000 feet alt, *Wood* 1099; near Pinetown, 1,000 feet alt, *Wood*. Also found in Cape Colony, Transvaal, and Zambesi country.

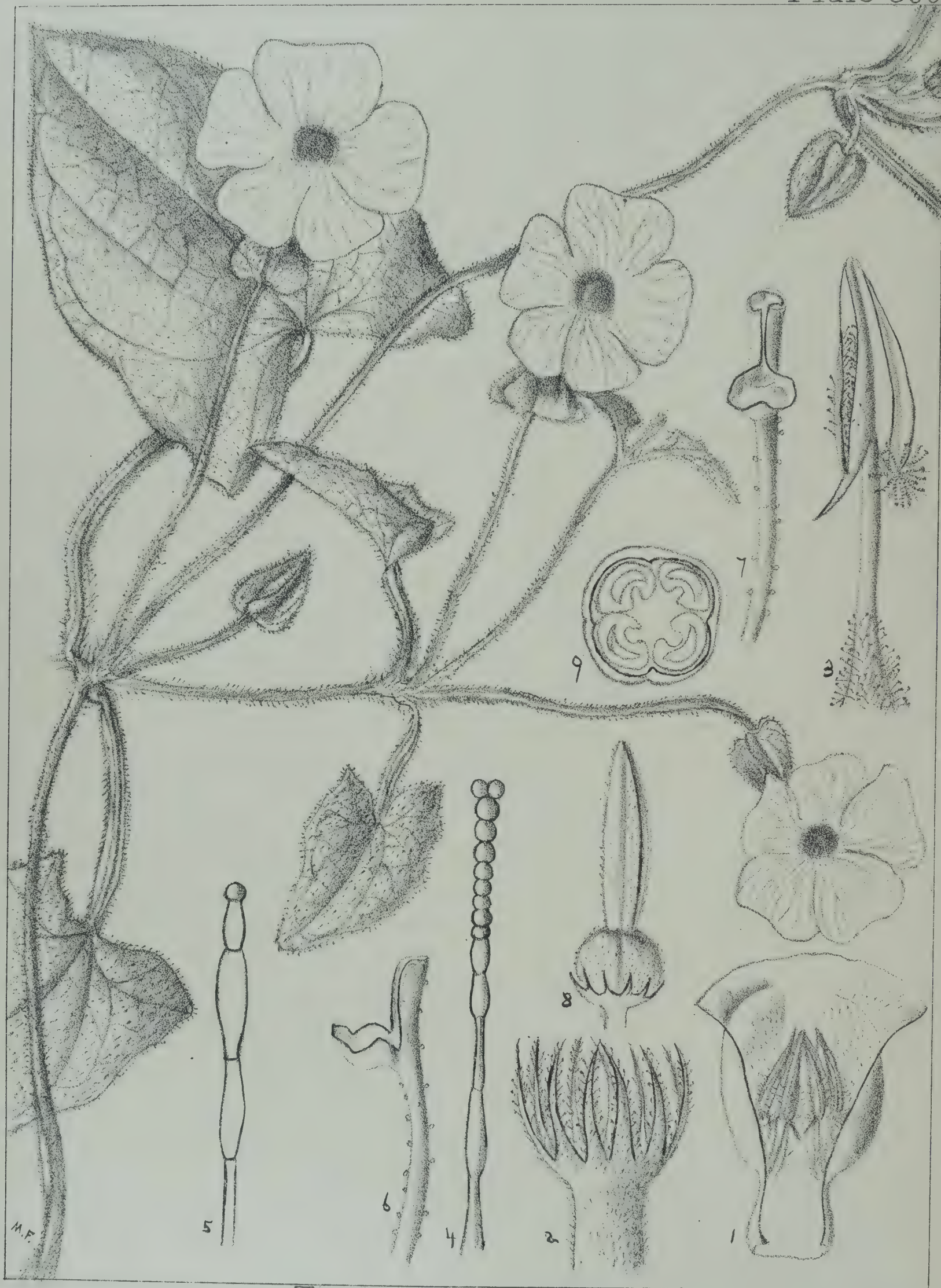
Drawn and described from specimens brought from Groenberg and grown in Botanic Gardens, Durban, flowering during the summer until April.

This is the largest flowered *Moraea* that we have in the Colony, and the handsomest, when once planted in the garden it grows without attention and forms large clumps two or three feet in diameter and is well worth cultivation. It differs from the description of *M. iridioides* in the Flora Capensis, in the length of its leaves and size and colouring of the flowers, and appears to us to be a very luxuriant variety, the type with smaller flowers and usually with procumbent stems is plentiful on the coast and in the midlands, and probably in the upper districts also.

Fig. 1, flower, perianth removed; 2, fruit; 3, cluster of leaves with flowering stems; *reduced*; figs. 1, 2 *enlarged*.



Moraea iridioides, Linn.



Thunbergia alata, Bojer.

PLATE 300.

THUNBERGIA ALATA, Bojer. (Fl. Cap. Vol. V., p. 10).
Natural Order, ACANTHACEÆ.

A twining plant bearing orange yellow flowers with purple centre. Stems terete or striate, pubescent, wide climbing, branched. Leaves opposite, petiolate, exstipulate, broadly hastate, entire or obscurely toothed, pubescent on both surfaces, dark green above, much paler beneath; 1 to $3\frac{1}{2}$ inches long, $\frac{3}{4}$ to $3\frac{3}{4}$ inches wide at base; petioles 1 to $4\frac{1}{2}$ inches long, conspicuously winged. Bracteoles 2, broad, keeled, concave and connivent at base, tapering to an acute apex, veiny, green, herbaceous; in fruit 10 lines or more long, 6 to 8 lines wide. Calyx of 12 linear teeth about 2-lines long, and joined in a ring at base, minutely glandular hairy. Corolla gamopetalous, salver-shaped, tube $\frac{3}{4}$ inch long, 1 line wide at base, then suddenly widening to 3 lines at throat, clothed with glandular septate hairs, especially at base, deep purple inside, lighter externally; limb 5-lobed, lobes broadly ovate, subtruncate, expanding to 1 to $1\frac{1}{2}$ inch diameter. Stamens 4, didynamous, included, inserted at base of corolla tube; filaments glabrous; anthers 2-celled, some or all spurred at base, fringed with moniliform glandular hairs. Ovary superior, 2-celled, cells 2-ovuled, ovules collateral; style longer than stamens, minutely glandular; stigma 2-lobed, one lobe much above the other; upper lobe obliquely truncate, concave, split down to the lower lobe which is obliquely cup-shaped. Capsule depressed globose, pubescent, $\frac{1}{3}$ inch diameter at base, rostrate, the beak 4 to 7 lines long. Seeds sub-hemispheric or sub-globose, black, reticulate.

Habitat: NATAL: Near Durban, Wood No. 495; 3092, and without precise locality, Cooper, 2771.

“Indigenous in Natal and Tropical Africa, introduced into many warm parts of the world.”

Drawn and described from specimens gathered near Durban, May, 1902.

In Natal this plant appears to be confined to the coast districts where it is plentiful, we have not met with it very far inland, there is a considerable difference in the size of the leaves and length of the petioles, and the glandular hairs at base of corolla and margins of anther cells are well worthy of microscopic examination. The spurs at base of anther cells are not always present, and when absent they appear to be represented by a tuft of glandular hairs. The plant is ornamental, but of no economic value, and the natives do not appear to distinguish between it and some other species of *Thunbergia*, and have no distinctive name for it.

Fig. 1, corolla tube opened; 2, calyx; 3, stamen; 4, hair of anther cell; 5, hair from base of filament; 6, style and stigma, side view; 7, same, front view; 8, capsule; 9, cross section of ovary; *all enlarged*.

NATAL PLANTS.

Volume 3.

—BY—

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—AND OF—

NATAL GOVERNMENT HERBARIUM.

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PREFACE.

IN presenting this volume of "Natal Plants" it is, perhaps, necessary to explain how it is that the third volume has been completed while the second volume (which contains figures and descriptions of grasses only) is still unfinished. When the first volume was in course of preparation two artists were at work at the lithographs, Mr. W. J. HAYGARTH and Miss LAUTH, and it was my intention that Miss LAUTH should keep to the grasses and Mr. HAYGARTH the miscellaneous plants, but, after Mr. HAYGARTH had completed 10 drawings, family reasons and press of business compelled him to relinquish the work. Miss LAUTH then, after the first half of the second volume had been completed, took up Vol. 3, and the greater part of the drawings have been done by her. When the volume was nearly completed I obtained the services of another assistant, Miss FRANKS, and it will be seen that, with some little assistance from Miss LAUTH, she has made 12 of the drawings. I think it will be admitted that the plates in this volume are superior as a rule to those in the first volume, and it is hoped that this improvement may continue. My thanks are due to all the artists, and especially to Miss LAUTH, who has made the greater part of the drawings in this volume, and who is now engaged in completing the second volume.

As to the descriptions, it will be noticed that they frequently contain matter which a botanist would perhaps consider to be unnecessary, such for instance as prominent Ordinal characters, but it should be remembered that this book is not intended for botanists only, but also for persons in the Colony who have but a small acquaintance with the science, and it is hoped that this publication will stimulate some at any rate of them to take a greater interest in it, so that we may no longer lie under the reproach that so few persons in the Colony know botanically one plant from another, and also that the number of collectors and observers may be speedily much increased.

My thanks are due to the Government who so generously contribute to its publication, and also to the Committee of the Durban Botanic Society, under whose auspices it is published, and without whose assistance and encouragement the work could scarcely be carried on.

I am also much indebted to the Director of Kew Gardens and his assistants in the Herbarium, who have at various times during the last 20 years identified for me a large number of specimens, and who are engaged in completing the *Flora Capensis*, a work which has been and is of the greatest service, not only to me, but to all workers in South African botany.

J. MEDLEY WOOD.

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